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COMPARATIVE ASSESSMENT OF REPRODUCTIVE INDICATORS DEPENDING ON THE BREED OF CATTLE IN THE ANDIJAN REGION.

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Abstract

The article summarizes the results of a study of reproductive indicators depending on the breed of cattle in the Andijan region. Thus, it is clear that Swiss cow breeds have a higher reproductive potential in comparison with Simmental breeds, which is obviously due to their better adaptive abilities to the climatic conditions of the Andijan region.

Key words

Simmental breed, Schwyz breed, reproductive indicators, fertility, insemination, after calving, stimulation of estrus.

INTRODUCTION: One of the most pressing problems of modern cattle breeding is the reproduction of the cow herd. Due to the increase in milk productivity, on the one hand, the productive life of cows decreases, increasing the need for replacement young stock, and on the other hand, the yield of calves decreases.

In this regard, the problem of repairing broodstock becomes especially acute. This problem is fully inherent in dairy cattle breeding in the Andijan region.

To increase the efficiency of milk production in the Andijan region, cattle of European origin, Simmental and Swiss breeds, were imported. It was decided to breed the Simmental breed as a less sensitive breed to unusual climatic conditions.

To clarify the main reasons for the insufficient level of reproduction in herds, a comparison was made on this indicator in connection with the breed of cows and milk productivity.

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Results of scientific work.

It is known that the level of reproduction in herds consists of two components: the beginning of the period of resumption of cycling after calving and the effectiveness of insemination. The results of studies of the onset of cycling after calving are shown in Table 1 in Fig. 1

The data in Table 1 and Fig. 1 show that during the first two months after calving, most cows of both breeds begin to cycle and become receptive for insemination. However, the proportion of Swiss cows that came into heat at this time (67±6%) was higher than the proportion of Simmental cows (51±5%). The difference is statistically significant (16±7.8; P≥0.95).

This difference in the timing of restoration of reproductive function after calving is obviously due to the higher adaptive ability of Swiss cows due to the fact that this is also associated with their lower milk productivity.

Table 1

Distribution of cows by timing of the start of cycling after calving in connection with breed

		Start of cycling after calving, days				Total
		Up tu 60	61-75	76-90	91-105	
Simmental breed	Number of cows	47	7	11	16	92
	%%	51±5	8±3	12±3	17±4	100
Schwyz breed	Number of cows	42	11	4	1	62
	%%	67±6	18±5	6±3	2±2	100
Difference Simmental breed — Schwyz breed	Number of cows	5	4	7	15	-
	%%	-16±7,8	-10±6,8	6±5,4	15±16,4	-
	t_d	2,1	1,5	1,1	0,91	
		P>0, 95	-	-	-	-

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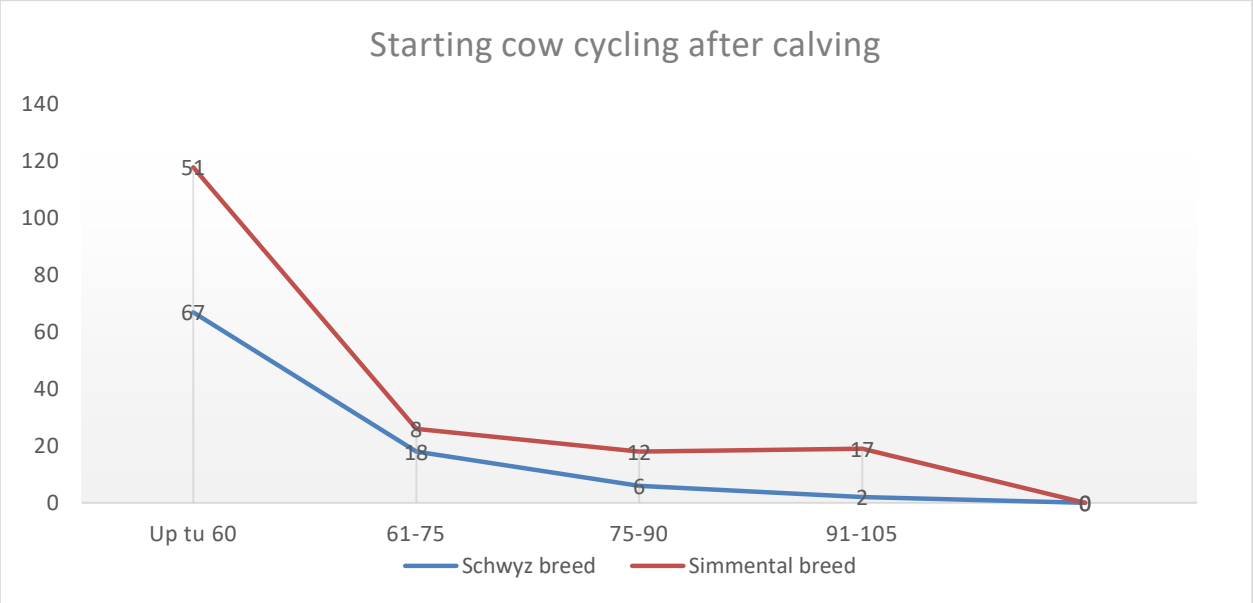

Rice. 1 Beginning of cow cycling after calving

The cumulative analysis of the beginning of post-calving cycling of cows is shown in Table 2 and Fig. 2.

table 2

Dynamics of increase in the number of cycling cows after calving in connection with breed

		Total cows	Of these, those who came into the hunt for the following dates (cumulatively)			
			Up tu 60	61-75	76- 90	91- 105
Simmental breed	Number of cows	92	47	54	65	81
	%%	100	51±5	59±5	71±5	88±3
Schwyz breed	Number of cows	62	42	53	57	58
	%%	100	67±6	85±4	92±3	94±2
Difference Simmental breed — Schwyz breed	Number of cows		5	1	7	23
	%%		-17±7	-26±6	-21±6	-6±4
	t_d		-2,4	-4,3	-3,5	-1,5
			0,99	0,999	0,999	

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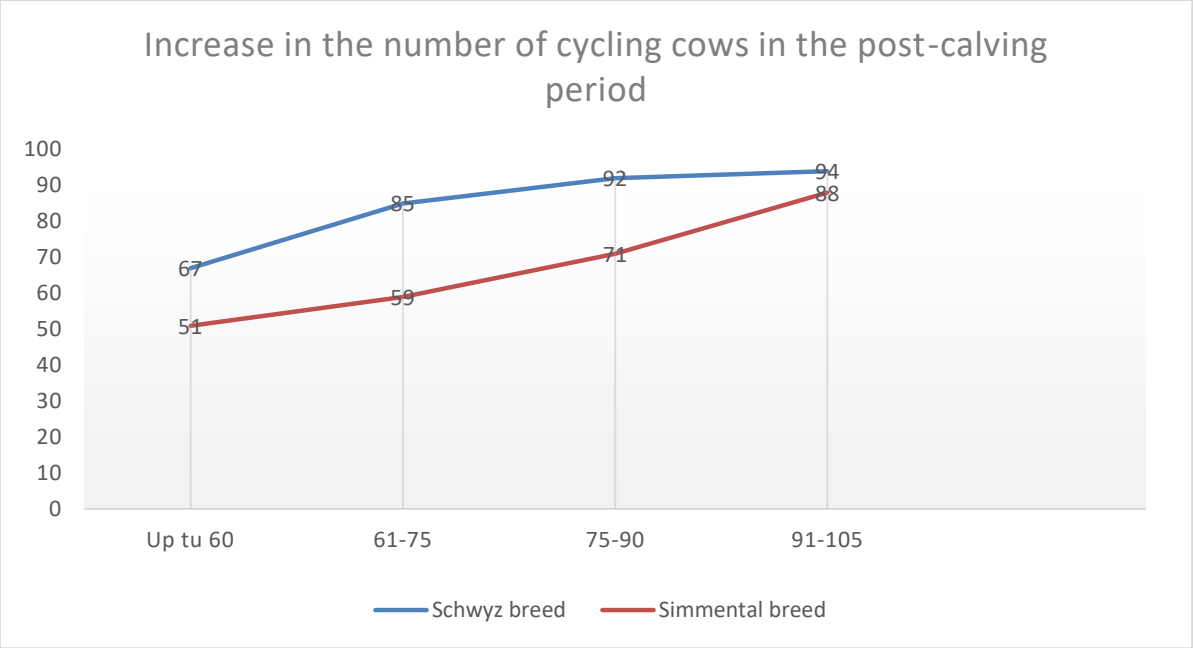

Rice. 2 Increase in the number of cycling cows in the post-calving period.

From the data in Table 2 and Fig. 2 shows that the statistically significant difference between Simmental and Swiss cows regarding the proportion of animals that come into heat persists for 90 days after calving. At this time, 71±5 and 92±3% of cows, respectively, came into heat and were inseminated. However, in the post-calving period of 91-105 days, these differences between breeds were reduced to 88±3 and 94±2%, respectively. Thus, the beginning of cycling of Simmental cows is mostly shifted to lower dates than in the Swiss herd.

However, in order to give a final assessment of these two genotypes of cows in terms of reproductive ability, we analyzed the insemination performance (Table 3 and Fig. 3).

Table 3

Results of insemination of cows at different times after calving in connection with breed.

Breeds			Time after calving, days			
			60	61-75	76-90	91-105
Simmental breed	Inseminated cows		47	7	27	1
	Some of them became pregnant	Number	43	6	23	0
		%	92±4,0	87±12,7	85±6,9	0
Schwyz breed	Inseminated		42	11	5	
	Some of them became	Number	34	11	4	

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	pregnant	%	80±6,2	100±0	80±17,9	
Difference between herds Simmental breed – Schwyz breed			12±7.2	-13±12	-27±12	
t_d			1.7		-2.5	
P						

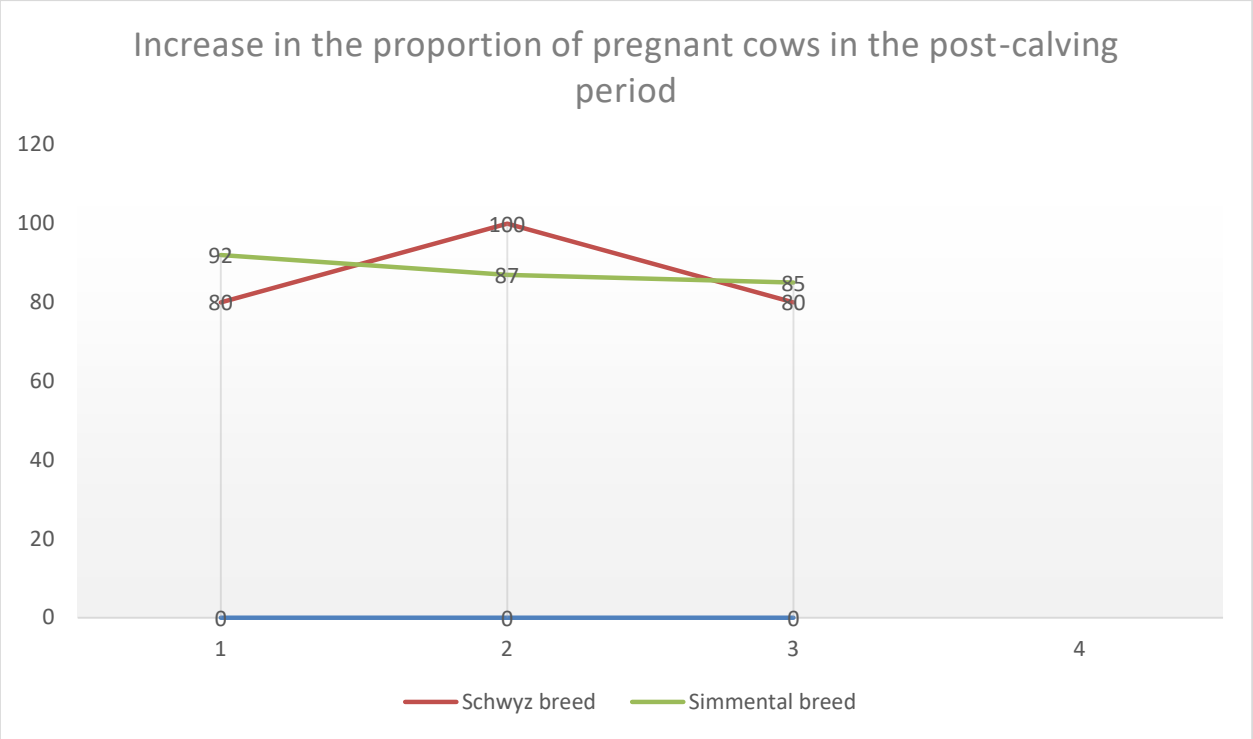

Fig.3. Increase in the proportion of pregnant cows in the post-calving period, %

From the data in Table 3 and Fig. Table 3 shows that the results of insemination of both Simmental and Swiss cows do not differ in connection with the timing of the start of cycling after calving. This means that the restoration of the reproductive organs (uterus, ovaries) and hormonal state outside of pregnancy in 51±5% of Simmental cows and in 67±6% of Swiss cows, judging by the results of insemination (92±4.0 and 80±6.2%), ends within two months after calving. The data also show that there are no significant (statistically significant) differences in the effectiveness of insemination between Simmental and Swiss cows inseminated within 60 days after the calving period. In other periods, although there are differences between these animals, due to the small number of animals they are statistically unreliable.

Data from the analysis of the effectiveness of insemination at different calving dates are shown on an accrual basis in Table 4 and Fig. 4.

Table 4

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Dynamics of growth of pregnant cows in the post-calving period.

		Total pregnancy to post-calving days, days			
		60	61-75	76-90	91-105
Simmental breed	Inseminated	47	54	65	81
	Pregnant	43	49	57	72
	%% Pregnant	53±5,5	60±5,4	70±5,1	89±3,5
Schwyz breed	Inseminated	42	53	57	58
	Pregnant	34	45	49	49
	%% Pregnant	59±6,5	78±5,5	84±4,8	84±4,8
Difference		-6±8,5	-18±7,7	-14±7,1	5±5,8
t_d		-0,7	-2,3	-2,0	0,9

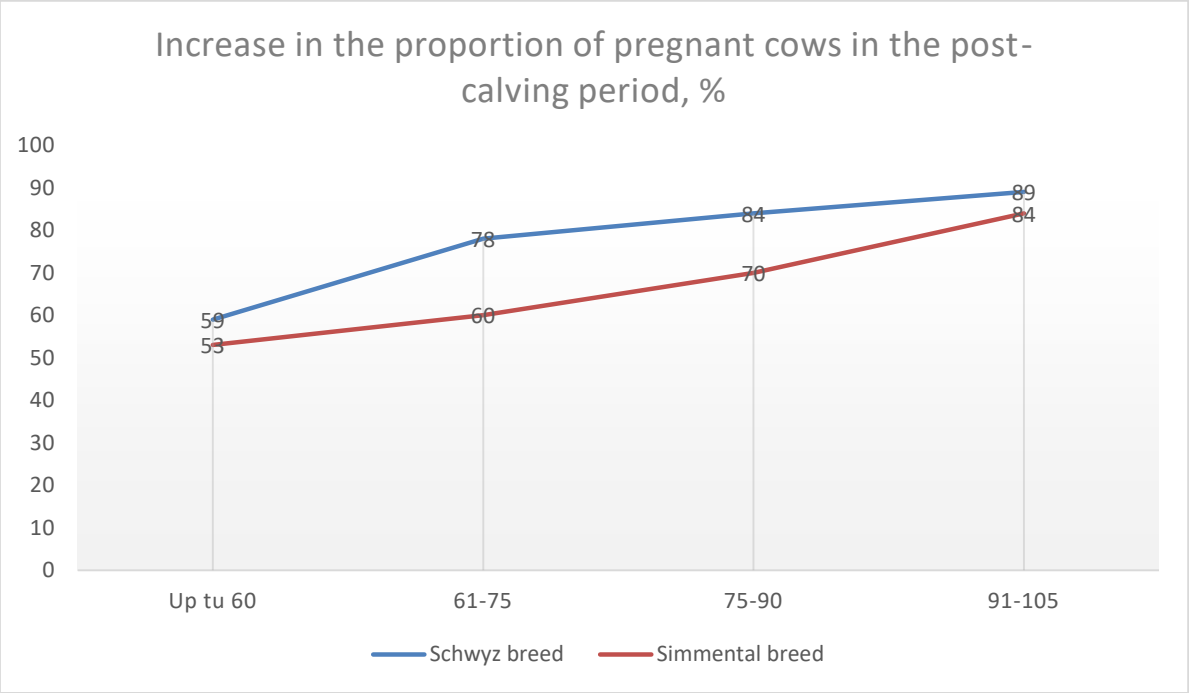

Fig.4. Increase in the proportion of pregnant cows in the post-calving period, %

The results of Table 4 and Fig. 4 show that in the first 60 days after calving, the proportions of pregnant Simmental and Swiss cows from the total number of cows did not differ (53±5.5 and 59±6.5%). At the same time, in the following periods of 61-75 and 76-90 days, the difference in the effectiveness of insemination increased with superiority in Swiss cows, but by the period of 91-105 days the results almost leveled out. This leveling was achieved by the fact that in Swiss cows the highest result, 84±4.8% pregnant, was achieved in the period of 76-90 days and in the subsequent period of 91-105 days it did not increase. Apparently, the cows that

remained dry after 90 days, with the exception of one, had impaired reproductive function, possibly with a complete loss of the ability to conceive or bear fruit.

CONCLUSIONS.

Thus, Swiss cow breeds have a higher reproductive potential in comparison with Simmental breeds, which is obviously due to their better adaptive abilities to the climatic conditions of the Andijan region.

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