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## THE EFFECTIVENESS OF THE USE OF VITAMIN PREPARATIONS IN DISEASES OF THE COW REPRODUCTIVE SYSTEM

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**Abstract:** Prophylactic administration of new water-soluble vitamins to weaned cows 30-60 days before calving and 20-30 minutes after calving has a positive effect on the metabolic process and state of reproductive organs in cows.

**Keywords:** E-selenium, vitaflash, trivit, service period, placental abruption, endometritis, herd status.

**Relevance of the topic.** Prevention of cow sterility and obtaining a healthy calf in the modern conditions of farming is one of the urgent problems facing veterinary science. The main reasons for infertility and the unhealthy birth of calves are the lack of vitamins in the diet of animals, a decrease in the immune status, and an imbalance in the main nutrients. Taking into account the above, we aimed our scientific research to study the effects of some new vitamins on cow's milk, their blood parameters and post-partum pathological conditions.

**Research object and methods.** Our research was conducted from March to August 2022 on Holstein cows of the "Shokhrukh" livestock farm of Okdarya district. Cows were divided into four groups. Our experiments were conducted on weaned cows, 30-60 days before calving. All cows in the experiment were injected intramuscularly with vitamin preparations four times according to the following scheme. Cows in the first group were given Vitaflash drug in a dose of 15 ml per cow. The composition of the drug: vitamin A- 50,000 IU, D3-25,000 IU, E-4 mg, B1-25 mg, B2-2 mg, B3-12.5 mg, B6-1.25 mg, B12-30 mg, panthenol-3 mg, vit-C-2 mg. Cows in the second group were given E-selenium in a dose of 1 ml per 50 kg of live weight. Composition of the drug: vitamin E-50 mg, selenium-0.5 mg in 1 ml. Cows in the third group were given Trivit drug in a dose of 15 ml per cow. The composition of the drug: vitamin A - 30000 IU, vitamin D3 -40000 IU, vitamin E - 20 mg in 1 ml. The fourth group, the control group, was not given vitamins. Blood was taken from cows in all experimental groups before drug administration and 20 days after calving, and morphological and biochemical indicators of blood were examined by generally accepted methods. The number of erythrocytes and leukocytes was counted in the Goryaev chamber, the amount of hemoglobin was determined in the Sali hemometer. Total protein was determined by the refractometer method, calcium and phosphorus were determined by the calometric method, and vitamins were also determined by the calometric method.

**Inspection results.** We started our experiments by determining the blood parameters of weaned cows. It is known that when cows are fed during the period of starvation, some vitamins and other substances are lacking in the diet. This situation was also clearly visible in the experimental groups that we are investigating.

Table - 1

Blood parameters of cows in the weaning period.

Indicators	The norm	Groups			
		First	Second	Third	The fourth
Erythrocyte 10 <sup>12</sup> /l	5,5-8,0	5,90±0,17	6,33±2,0	6,24±1,3	6,05±1,25
Leukocyte 10 <sup>8</sup> /l	6,6-9,5	6,95±1,2	7,08±1,4	7,15±0,6	7,12±0,8

<b>Hemoglobin g/l</b>	84,4-117,8	106,9±3,1	100,0±7	102±2,1	103±1,3
<b>Total protein g/l</b>	72,0-86,0	82,6±2,0	80,0±5,0	73,5±5,0	79,0±3,0
<b>Calcium mmol/l</b>	2,20-3,3	2,8±0,16	2,62±0,03	2,2±0,1	2,44±0,02
<b>Phosphorus mmol/l</b>	1,4-2,5	1,49±0,04	1,42±0,03	1,38±0,02	1,39±0,01
<b>Glucose mmol/l</b>	2,2-3,2	2,69±0,23	2,19±0,26	2,4±3,3	2,35±0,43
<b>Vitamin A µmol/l</b>	4,2-7,0	2,64±0,22	2,53±0,13	2,85±0,23	2,09±0,18
<b>Vitamin C µmol/l</b>	28,4-56,8	25,9±1,7	17,37±1,43	16,0±2,0	20,0±1,38

According to the results of the examination, it was determined that the indicators of the blood of cows are almost physiologically normal, and the amount of vitamins A and C is below physiological indicators. In addition, during the clinical and gynecological examinations of the cows in the experimental farms, placental retention was observed in 15-18% of the cows, and postpartum endometritis in 20-25% of the cows. Significant changes in the blood parameters of the animals were observed when vitamins were administered to the experimental animals according to the above-mentioned scheme to cows before and after calving.

Table -2

## Cow blood indicators

Indicators	The norm	Groups			
		First	Second	Third	The fourth
<b>Erythrocyte 10<sup>12</sup>/l</b>	5,0-7,5	6,5±0,14	6,7±0,21	6,6±0,42	5,9±0,2
<b>Leukocyte 10<sup>8</sup>/l</b>	4,5-12,0	6,4±0,27	6,7±0,36	6,9±0,23	7,2±0,9
<b>Hemoglobin g/l</b>	99-129	112,4±0,18	110,7±0,25	104,4±0,45	96,0±0,3
<b>Total protein g/l</b>	72,0-86,0	75,2±0,46	73,3±0,81	76,8±0,63	78,3±0,02
<b>Calcium mmol/l</b>	2,5-3,13	2,71±0,01	2,53±0,03	2,63±0,06	2,32±0,02
<b>Phosphorus mmol/l</b>	1,45-1,94	1,59±0,02	1,50±0,01	1,55±0,03	1,37±0,02
<b>Glucose mmol/l</b>	2,22-3,88	2,53±0,22	2,40±0,51	2,48±0,05	2,25±0,40
<b>Vitamin A µmol/l</b>	1,4-5,2	3,8±0,21	2,92±0,04	3,6±0,18	1,02±0,02
<b>Vitamin C µmol/l</b>	34,1-56,8	38,3±2,15	34,8±1,87	36,3±2,33	29,4±1,6

When vitamins were administered to experimental animals, the results of blood indicators in the postpartum period were as follows: there was almost no effect on the number of erythrocytes, the number of leukocytes, and the amount of hemoglobin, they remained within the physiological norm, and the total protein was also normal. The amount of calcium, phosphorus and glucose increased in the experimental groups compared to the control group under the influence of vitamins. Including Ca 16.8%, 9.5%, 13.3%; R 16.1%, 9.5%, 13.1%; glucose 12.4%, 6.6%, 10.2%. Serum levels of vitamins A and C were also increased in all experimental cows compared to the control. In addition, changes were observed in the clinical and gynecological status of farm animals under the influence of vitamins.

Table -3

## Effects of vitamin preparations on the reproductive function of cows

Groups	Num ber of heads	Service period	Fertilization index	Postpartum pathological conditions, %	
				Placental retention	Endometritis
<b>First</b>	5	112,2±28,3	1,77	20,2	23,8
<b>Second</b>	5	107,6±23,1	1,71	22,6	20,0
<b>Third</b>	5	124,6±31,5	2,38	28,3	29,5

The fourth	5	137,4±36,7	3,46	44,4	42,7
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According to the results of the experiments, when vitamins were administered to the experimental cows, the service period was shortened by 12.4 and 17.0 days in the first and second group of cows compared to the third group, and by 25-29 days compared to the control group.

The shortening of the time of escape was determined by 1.31, 1.36 times in the first case, 1.25 and 2.02 times in the second case, and after the use of vitamins in the cows of the first and second groups, the incidence of placental retention and endometritis decreased significantly compared to the third and fourth groups.

**Summary.** Due to deficiencies in the diet of weanling cows, cows create conditions for protein, vitamin and mineral substance disorders, decrease in body resistance and the occurrence of some gynecological diseases.

If vitaflash, E-selenium and trivit drugs are applied to weaned cows 30-60 days before calving and after calving for preventive purposes, the clinical and physiological status of the herd will increase, the blood parameters of the animals will improve, and the service period will be shortened.

Administration of vitamin preparations to cows before and after giving birth has a significant effect on prevention of obstetric and gynecological diseases.

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