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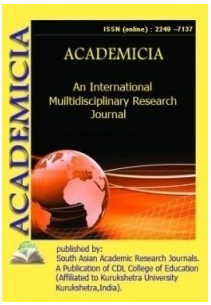

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METHODS OF MICROSCOPIC EVALUATION OF SPERM OBTAINED FROM BULLS FOR SCIENTIFIC WORK AND IN PRODUCTION

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ABSTRACT

In this article, researchers and methods of assessing the quality of sperm from agricultural animals in production, microscopic examination, sperm count, determination of sperm count using a melange, sperm concentration photoelectric electrohemo-meter and standards-assisted determination, determination of sperm concentration using optical standards. G. V. Partushin et al. V. Rumyantseva methods are mentioned.

KEYWORDS: *Asperm, sperm, ejaculate, Goryaev count type, melange, V.A. Morozov method, pathological forms of sperm.*

INTRODUCTION

The results of the examination of sperm obtained from them are crucial in determining the quality of the bull. If aspermia is detected in pedigree animals or if the sperm are not complete, its high external indicators also lose their value. The use of high quality sperm is an important condition for increasing the level of fertility. Therefore, the quality of sperm must be checked by macroscopic (visual) and microscopic methods before each fertilization.

MAIN PART

In the newly obtained (thick) sperm of a bull, a very active motility of sperm is observed, which is a wavy (wavy) movement.The final evaluation of sperm is based on two indicators, namely density and motility. For example, 3-10 - sperm dense, close to 100% sperm have a forward motion along a straight line; O'-9 sperm are of medium density, 90% of sperm are straight line

has a forward motion across. Ram sperm 3-10, 9 for use, dilution, and storage; bull sperm - z and O'-10, 9, 8; the sperm of a stallion and a male pig should have a score of O'-10, 9, 8, 7 points.

Determination of sperm concentration: Sperm concentration is the amount of sperm cells in a sperm, and the number of sperm in 1 ml of sperm is measured in billions.

Sperm concentrations are determined with the help of Goryaev, Tom, Burler, Broker counting chambers, Photoelectrocolorimeter (FEK-M), Photoelectric electrohemo-meter and standards.

If it takes 10-15 minutes to determine the concentration of sperm using the Goryaev count type, it is possible to determine the accuracy of the results with FEK-M in 1-2 minutes, but the accuracy of the results with FEK-M must be determined by the results obtained in Goryaev count compared.

Determination of sperm concentration in Goryaev counting net is carried out in the following order: 1. Preparation of counting chamber. 2 Dilute the sperm in the melange. 3. Transfusion of diluted sperm into the counting net. 4. Count the sperm. 5. Calculate the concentration of sperm in the test semen.

The counting chamber is wiped dry with alcohol-ether. The edges of the counting net are covered with polished shutter glass and rubbed until a rainbow forms on the side. Sperm are diluted in 3% sodium chloride solution in melange. To count the erythrocytes (red mixer) melange will be 0.5, 1, 101 marks.

Erythrocytes are obtained from the sperm of bulls up to 1 mark of the counting melange and on top of 101 and 11 marks of 3% sodium chloride solution. Cover both sides of the melange and shake for 2 -3 minutes, pour 3-4 drops and wipe the tip of the melange with a cotton swab. The next DROP is poured into the counting chamber. There are two types in the intermediate plastic of the counting type, so the mixture is poured on both sides and the counting begins after the sperm have settled for 2-3 minutes. First a round is found in a small lens, then seen in a large lens (one large cell must fit into the field of view). Of the 225 large cells of the Goryaev type, 25 are divided into 16 smaller cells. Sperm diagonallyare counted in five large (80 small) cells. Only the heads of sperm located inside the small cells and above their left and upper lines (G-shaped) are taken into account. The number of sperm counted in each large cell is multiplied and the sperm concentration is calculated using the following formula:

$$K = \frac{H \times D \times 4000 \times 1000}{}$$

In this case, K- is the concentration of sperm in 1 ml of sperm (billion account);

H-80 is the number of sperm counted in small cells;

D-dilution rate;

4000-millimeter cube conversion number;

1000 is the conversion factor for milliliters (ml) or cubic centimeters (cm3)

In order to speed up the work, the number of sperm counted in 80 small cells is not calculated according to the formula, the bull sperm is divided by 200, and the number of sperm in 1 ml of

sperm is determined in billions. For example, if 240 sperm are counted in 5 large cells, then the concentration in 1 ml of sperm are 240: 200 = 1.2 ml / billion will be.

The data obtained to determine the concentration of sperm in the semen, the average values of sperm of male animals of this type (ram - 2-3; bull - 0.8-1; stallion - 0.1-0.25; male pig - 0.1-0.2; dog - 0.1; rabbit - 0.1; rooster and turkey - 2-4; goose - 0.3-1 ml. billion).

Determination of sperm concentration using FEK-M.The principle of operation of this device is based on the fact that a bunch of light of a certain power, passed through a cuvette filled with sperm, falls on the photocell Selenium and turns the arrow of the galvanometer. Its DEPENDENCE depends on the strength of the electric current passing through the galvanometer, and the concentration of sperm is inversely proportional to the turbidity of the solution.

Before work, a calibration curve is drawn, after which a table is drawn, which determines the concentration of sperm, depending on the performance of the equipment. This curve or table determines the concentration of sperm in the sperm.

Fill the vial with 10 ml of a 3.5% solution of sodium citrate and pour 0.1 ml of bull semen using a micro-tube. In this case, the sperm is diluted in a ratio of 1: 100. The sperm of the ram is diluted 1: 400 (10 ml of sodium citrate + 0.025 ml of sperm). After mixing, the solution is poured into a 10 mm thick cuvette of FEK and placed in a slot away from the photocell on the right side of the apparatus. A sperm-free solution of sodium citrate is placed in a similar cuvette in the left slot of the device. The optical density calculation scale of the left drum is then set to zero and the galvanometer needle is adjusted to zero with a rough adjuster (ol1 rectifier) and then a thematic adjuster (№2 rectifier) by rotating the photometric panel, then the sperm cuvette is removed from the right cell and replaced with sodium. a cuvette filled with citrate solution is set. The galvanometer needle rotates and the left drum is rotated by setting it to zero. The density is read on the optical line on the red arrow of this drum.

A №4 red filter of the equipment is used to determine the sperm concentration in the bull sperm.

Determination of sperm concentration using optical standards. G.v. Partushin and 3. c. Rumyantseva recommended an optical standard for determining the concentration of sperm in a bull.

G. V. Partushin and V. Rumyantseva's standards consist of six welded test tubes, the clarity (opacity) of the solutions in them means that 0.4-0.6, - 0.8 - 1.0, -1.5 - 2.0 billion per 1 ml of bull semen. Prior to detection, bull semen is diluted 1: 5 with 1% sodium chloride solution (0.3 ml semen + 1 ml sodium chloride) using a micropipette with a 7% glucose solution when the stallion semen concentration is more than 500 million ml.

Checked in an empty test tube attached to the standardssperm are added and compared to the standards. If the opacity level of the test sperm corresponds to the color of the control solution, then the sperm concentration is equal to the concentration specified in the standard. To facilitate the work, a glass rod or pen is placed close to the back of the test tubes to be compared.

Determination of the amount of dead sperm in the sperm (V. A. Morozov method).With a pipette or glass rod, drop one drop of sperm and 2-3 drops of 5% aqueous solution of eosin (eosin solution is prepared in 3% solution of sodium citrate) on the edge of the degreased glass, mix

immediately with a stick (2-4 seconds) and remove from it. a thin grease is prepared on the glass of another piece. The grease is then examined under a microscope at a magnification of 400-600 times. A number of unstained (live) and pink-stained (dead) sperm are counted as 500. A keyboard apparatus can be used to count leukocytes to make the calculation quick and easy. The letters T (alive) and O (dead) are attached to one of the keys. Once the percentage of dead and living sperm is determined, sperm motility is assessed in points. For example, if 400 live and 100 dead sperm are counted, the value of sperm is 8 points, while dead sperm is 20%.

CONCLUSION

Counting of sperm in pathological form: Exceeding the allowable amount of pathological forms of sperm (defective, disabled) in the sperm is called teratospermia. Their high percentage leads to a decrease in fatherhood.

There are pathological forms of sperm, such as giant or deaf, deformed head, broken neck, only heads or tail, twisted or crooked tail, with drops in the cytoplasm or thickened, one, two, three and four tails.

The increase in the percentage of pathological forms of sperm may be due to disruption of spermogenesis, adverse effects of extra glandular fluids on sperm, as well as adverse effects of sperm extraction and storage environment on sperm.

It is allowed to use for artificial insemination if the amount of pathological sperm in bulls does not exceed 18%.

Pathologicals perm functional in the output invalid found and removed from experiments and use.

REFERENCES:

1. Avezimbetov Shavkat Dosumbetovich. Academicia Globe. Inder science.
2. Avezimbetov Shavkat Dosumbetovich. Academicia Globe. Inderscience Research
3. Avezimbetov Shavkat Dosumbetovich. International Journal of Engineering and Information Systems (IJEAIS). Vol. 4 Issue 12, December - 2020. Purulent Endometritis in Cows and Its Treatment. Pages: 21-23
4. Eshburiev B.M., Urazov Sh.A., Ilesov Z.I. materials of the International scientific-practical conference, posvyashchennoypamyati professor D.X. Narzieva, Vitebsk, October 31 - November 1, 2019 - Vitebsk: VGAVM,2019. Etiopathogenesis and features of subinvolutionary uterine fibroidskorov v usloviyaxfermerskixkhozyaystvrespublikiuzbekistan. Stranitsa 169-171.