



Technical Measures to Improve the Effect of Overdischarge Donor Sheep

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Abstract

In view of the mutton sheep seed degree is low, the production level and low level of breeding technology, from the ram selection and care, the donor ewe choice and feeding management, the choice of the sheep, the choice of super ovulation hormone selection and dosage, donor sheep estrus identification, timely fertilization, donor sheep add selenium-VE processing, improve the mutton sheep super ovulation of eggs and artificial insemination rate, high quality embryo collection rate to improve the effect of mutton sheep embryo transfer. Choose to improve the high quality male (mother) sheep breeding rate, establish embryo efficient production: namely for (by) feeding management, body super ovulation, artificial insemination rate, and guide the mutton sheep industrialization production, solve the problem of mutton sheep productivity and seed rate low, promote the house feeding process, alleviate the contradiction between livestock at the same time, maintain ecological balance.

Keywords

Mutton sheep, supernumber ovulation, embryo, embryo transfer

Embryo transfer is a key technology for the rapid propagation of mutton sheep. At present, the main problems affecting the application and popularization of this technology are that the unstable number of donor sheep ovulation and the low fertilization rate of recipients are the bottleneck restricting the popularization of this technology. For this reason, we analyzed many factors affecting the superovulation of donor ewes, such as the body condition, age, parity and season of donor sheep, the nutrition level in the early stage, the hormone type, dosage and mating method of overovulation treatment, etc. In terms of micronutrition, selenium deficiency obviously affects the reproductive performance, and the influence on livestock reproduction is mainly manifested in the poor semen of public animals, low fetal rate of females and even infertility, and abortion, premature birth and stillbirth in pregnancy [1, 2]. Adding appropriate amount of selenium can enrich the sheep luteum, the number of recovered embryos and the number of available embryos are significantly increased, and the ovulation is better. Selenium supplementation improved the superdischarge effect of ewes to some extent [3]. The chemical structure of vitamin E is similar to phenolic compounds, which are easily oxidized and has biological activity. Among them, A-tocopherol has the highest activity, so it is also called anti-sterile vitamin. The primary function of vitamin E is acting as a biocatalyst for the organism. Lack of vitamin E, can cause ram sperm reduction, reduced quality, no fertilization ability, no sex function; ewe embryo absorption or abortion, or even death symptoms. In severe vitamin E deficiency, nerve and muscle tissue metabolic disorders can also occur.

1. Ram selection and health care

For a kind of ram sheep farm, over the number of ovulation, the mating of the ram is heavy. In quality, the product requires good breed, clear pedigree, meets the breed profile, good health, good semen quality and strong sexual desire. When determining the number of male sheep, the number and blood relationship. That is, there should be at least two main rams in each blood line, and the rams should be properly rest after breeding.

Special person to raise in groups, and keep stable. The sheep house should be dry, clean and full of light. Daily exercise time was more than 6h, and the distance was from 6 to 9 km. Faster faster natural grazing. Drink water, table salt and eat free food. The donor sheep super

When discharging, the ram ensures strong sexual desire, good semen quality, and the donor ewe can collect high-quality abortion. Rams with poor sexual desire can be treated with testosterone or analogues. In the donor overrow, the ram is 20% to 30% higher than usual, starting 2 months before the overrow. There are quality pastures, free food and water, full price concentrate, juicy feed and carrots. No pasture, forage to full price, good palatability, easy to digest. The most ideal forage is to mix the full price and high quality forage, silage, etc. Supplement 3-6 eggs per day, eggs belong to animal protein feed. To eat eggs for the breeding ram is to supplement protein for the sheep.

Every 100 grams of eggs contains 12,7 grams of protein, 11,6 grams of fat, methionine in eggs is particularly rich, and there are other important micronutrients, such as potassium, sodium, magnesium, phosphorus, especially the yolk iron content of 7 mg per 100 grams, phosphorus content in eggs is also very rich, these substances easy to sheep digestion, absorption.

Eating sheep eggs has several benefits:

- (1) Supplement of protein;
- (2) Supplement of trace elements;
- (3) For the weak body or breeding peak breeding ram, feeding eggs can quickly recover the physical strength of the sheep and other aspects. Increase the quantity and quality of semen.

2. Selection and feeding management of donor ewes

Choose healthy, no reproductive diseases, moderate fat, old, body too fat or too thin ewes excess estrus, but not ovulation or discharged eggs of poor quality, artificial insemination can only be sperless eggs. The donor ewes had a clear pedigree, healthy, age of 2.5 to 6 years, strong body, and no history of empty pregnancy. The selected donor ewes were subjected to infectious disease quarantine in advance, and preventive injection and insect repellent of internal and external parasites. Attention should be paid to the detection of pregnant ewes, lambs lambs must be 40 days as a donor [4].

The feeding management in the preparation period includes feeding, drinking water, filling, salt, transportation, movement, testing and other contents. It is best to adopt the combination of grazing and house feeding, so as to facilitate the balanced intake of nutrients for donor sheep. In areas with pastures, the method of supplementary feeding after grazing is adopted, and the concentrate of supplementary feeding should be fed twice early and later. There is slightly less supplementary feeding in the morning. Slightly more in the evening: the whole house feeding sheep, passive drive exercise required time is short, in the amount of concentrate more than 0.75 kg, usually in the morning, middle and evening, but the sheep should keep quiet during rumination 1 to 2 h after feeding.

3. Try the choice of the love ram

Local ram with good sexual desire and good health. The breeding ram requires good breed, precocious puberty and early age, fast growth and development, good fat condition, good meat and hair performance, coordinated sheep body proportion, full parts of the muscles, The ratio of test and donor ewes was 1:30. The biggest difficulty in artificial insemination of sheep is semen collection of ram. Many rams and Rams who participate in mating for the first time are difficult to get sperm. Many people think this ram is useless. After a few attempts, they give up artificial sperm collection and mating. But in fact, the ram picking problems generally need to adjust. Only after training, the breeding ram that still can not collect semen is suitable for giving up. One-circle guidance method. Close the breeding sheep that does not climb with the ewe together and naturally guide the breeding sheep to climb. Observe the induction method. When the other ram takes the sperm, let the ram that needs to be trained next to observe it, and gradually induce the ram to climb. Massage and stimulation method. When regulating the breeding ram, massage the testis of the breeding ram for more than 10 minutes every day, or stimulating the testis of the breeding ram with cold water can effectively improve the sexual desire of the breeding ram. Drug stimulation method. Some breeding ram sexual desire is very poor, through the conventional training and can not stimulate the sexual desire of the ram, this time should be supplemented with drugs to stimulate. Biological instinct stimulation method. Apply the fluid or urine of the nose of the breeding ram. Directly use the ewe as a ram to cross, can increase the desire to cross.

4. Hormone selection and dosage used for superovulation

Domestic hormones: FSH (follicle-stimulating hormone), LH (luteinizing hormone), PG (prostaglandin), C IDR (vaginal embolism with progesterone). Imported hormones: similar high-quality products produced abroad can be used.

FSH (domestic) dose: 90~200 U. LH (domestic) agent, quantity: according to the injection dose of FSH, muscle injection of 80~120U. Note: The dose of imported drugs is determined according to the product instructions.

On the day of the CIDR as day 0, the overrow started at 9 to 13 days of the CIDR, and the CIDR was removed at the sixth dose of FSH injection. 13h after the removal, use the test ram, every 12h test once, the donor sheep estrus 12h must be timely breeding. The method of mating or artificial insemination was used for 2 to 3 times with 12h interval. When artificial insemination technology is used for mating, the donor sheep can be fertilized for 3 times within 18 to 48 h after the removal. Coeliac endoscopic deep uterine insemination can be performed, or natural mating of estrus superrow ewes or conventional artificial insemination.

5. The mating

5.1 Identification of donor sheep

Esoduction was observed in excess donor sheep at the sixth injection of FSH. Observation time: once in the morning and evening, no less than 0.5 h. Observation method: tie the test ram and put it into the overrow donor female sheep. Each test ram can detect 30~40 donor ewes. The ewes stand and accept the test ram, which can determine that the donor ewe is in estrus and accurately record the estrous time of the donor ewe.

5.2 Timely insemination

Time for the first insemination infusion: natural estrus ewes 24h after estrus, induced estrus ewes should be 54h after removal, in estrus ewes 2 to 3 h before the end of estrus, 2 to 3 h before ovulation, and every 12h thereafter. The vitality of fresh semen is more than 70%, and the effective sperm number of each artificial insemination is not less than 3×10^7 , Frozen semen vitality in more than 35%, the number of sperm 2~3 times.

5.3 Time of time during abdominal endoscopy

After the removal of the mutton sheep 48h, Using laparoscopic intrauterine infusion, can improve the embryo Fetal fertilization rate, Reduce the rate of embryo degeneration, Can achieve a high fertilization rate. For overchops, Obviously better than conventional cervical artificial insemination and natural mating; No fertilization often occurs in natural mating or cervical insemination. The winding structure of the mutton sheep cervix makes it difficult to accurately semen, in addition, the simultaneous estrous and superovulation treatment itself has a certain interference effect on the transport of sperm through the cervix. This has an impact on the fertilization rate and the number of transplantable embryos. Intraperitoneal endoscopy. The key to the surgery is the timely insemination. LH The peak appeared at approximately 26h after detetation, Ovulation occurs at about CIDR After taking out 48~50 h, In the undone overrow Reason and put in CIDR And do overrow treatment of meat sheep, from LH The time from peak appearance to ovulation is approx 24h. This indicates that the endoendoscope in superrow meat sheep. The optimal time of intrauterine insemination is affected by the overdischarge protocol.

5.4 The site in utero

Front end of uterine horn, Middle end of uterine horn, At the end of the uterine horn and at the base of the uterine horn, The following technical differences exist: For the crude uterine corner end and the uterine corner at the base of the uterus, The incision for the surgery was relatively large, The risk of causing adhesion also increases, And the wound is susceptible to infection; And the middle of the uterine horn with a smaller incision, the uterine horn was clearly observed with the help of laparoscopy. Will ewe double hind legs, hands hold ewes hind leg elbow and lift, make ewes hip raise, cleaning pussy, insert the vagina and rotate 90 with open, open the opening, the vas is inserted into the cervical mouth 1 cm, and then back a little will push semen into the uterine neck, input diluted semen 1ml, the first input 8 hours can lose the second time, in order to ensure the rate. Immediately after the operation, wash with 70% alcohol, and then apply nail purple to keep the wound fresh and dry to avoid redness and inflammation.

5.5 Selenium-VE-based sheep supplementation and meaning

For donor sheep, selenium-VE was injected until the end of mating at a dose of 3 mL / day

Only, the method is a single point intramuscular injection every morning. The effect of sodium selenite-VE and the same fertilization and the rate of donor ewes on ovulation and fertilization. The sheep injected with sodium selenite-VE averaged 11.0 per embryo, which was significantly higher than that of the control group (8.9) ($P < 0.01$), and there was no significant difference between replicates in the recipient sheep in the group ($P > 0.05$), indicating that selenium-VE supplementation to ewes before mating had a significant effect on ovulation. ewe without estrus treatment method is VE soft capsule fed 10 a day, generally feeding 3-5 days can be estrus. Flies take 5 VE a day for a month to increase the number and quality of ovulation, and increase the survival rate of embryos. Studies have shown that the maternal feeding of VE to donor ewes contributes to the weight gain of newborn sheep, and the development of internal organs is robust in lambs.

6. Conclusion

In ewe superovulation, timely insemination has a great influence on the effect of superovulation. In order to reduce the number of spermatous eggs, the semen quality of breeding ram should be improved as much as possible (pay attention to the selection of breeding ram and health care); the body condition of middle condition is appropriate, and too thin ewes should not be selected; imported drugs and domestic drugs have little influence on superovulation effect. However, in order to ensure its effectiveness, it is best to choose the same batch of used drugs, and the treatment of selenium-VE can improve the ovulation effect of ewes. Selenium-VE supplementation has the antioxidant effect, which can inhibit the activity of free radicals, contribute to the resistance of oxidative stress in sheep, reduce cell and tissue damage, and enhance the body immunity. It can improve the function of the digestive system of sheep, promote the healthy maintenance of intestinal flora, reduce enterovirus infection, and reduce intestinal dysfunction. It can increase the disease resistance of sheep, improve the disease resistance, reduce the incidence of disease, and reduce the mortality rate of many diseases. It can improve the growth and reproductive ability of sheep, promote the healthy growth of sheep, increase the meat yield and improve the meat quality, improve the reproductive ability, and promote the fattening effect of sheep.

Project source

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