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Anoestrus After Calving: A Serious Problem for Livestock Farmers

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A dairy farmer's income depends on two things: milk, and the sale of calves. Both depend on the cow or buffalo calving regularly. The usual target is one calf every 12-13 months in cows and every 14-15 months in buffaloes. To meet it, the animal must come into heat (oestrus) within 45-60 days of calving and conceive soon after. When an animal does not show heat after calving, the condition is called postpartum anoestrus. Every extra day the animal stays empty adds to the calving interval. Over her productive life she calves fewer times, gives less milk, and produces fewer calves, while the farmer keeps paying for her feed and care. The problem is more frequent in buffaloes and in high-yielding crossbred cows. The main causes are an unbalanced or insufficient diet, uterine infection, stress (heat stress in particular), prolonged suckling by the calf, internal worms and ticks, and metabolic diseases. In many cases the animal is actually cycling, but the signs of heat are weak or are missed by the farmer. Each cause is described below with practical steps a farmer can take.

Signs of heat

A heat that goes unnoticed is a lost chance to inseminate, so the farmer has to know what to look for. An animal in heat is restless and bellows often. She may reduce her feed intake and give slightly less milk. The vulva becomes swollen and moist, and a clear, stringy mucus hangs from it or sticks to the tail and hindquarters. She mounts other animals and most reliably stands still when other animals mount her. In cows heat usually lasts 18-24 hours, and it returns about every 21 days if the animal does not conceive. Buffaloes show much weaker signs, often only a little mucus and occasional bellowing and they frequently come into heat at night or in the early morning. This is called silent heat. Many buffaloes reported as "not coming into heat" are cycling normally and their heats are simply missed. Observing animals at least three times a day, including early morning and late evening, catches many of these cases.

Main causes of delayed heat after calving and their management

A) Unbalanced or insufficient diet

In the last trimester of pregnancy and in the first weeks after calving, the animal's energy requirement rises sharply: the foetus grows fastest in the final months, and milk production starts immediately after calving. Feed intake does not rise at the same pace. If the animal does not get enough energy-rich, balanced feed in this period, she goes into negative energy balance and starts using her body reserves. Her ovaries then stay inactive, so heat is delayed or does not occur. The same condition lowers milk yield and increases the risk of ketosis and fatty liver. Shortages of phosphorus and trace minerals such as copper, zinc and cobalt in the ration also delay the return of heat.

Management

During pregnancy the animal should get a balanced, nutritious ration with 50-100 g of mineral mixture and about 30 g of common salt every day. In the last trimester she should get about 1

kg of concentrate mixture daily over and above her normal ration, to meet the needs of the growing foetus. After calving, she needs feed that is rich in energy and easy to digest, such as jaggery, oil, sesame, boiled porridge (dalia), fenugreek and green fodder. Increase the concentrate slowly over two to three weeks; a sudden increase can cause indigestion and acidosis. High-yielding animals benefit from 100-150 g of bypass fat per day after calving. To prevent milk fever and other metabolic diseases, feed 100 g of anionic (DCAD) mixture daily from 21 days before the expected calving date. A vitamin D injection about one week before calving can also help, but the dose should be decided by a veterinarian. Do not let the animal become too fat during the dry period: overweight cows lose more condition after calving and have more calving and metabolic problems. With correct feeding and timely supplements, most of the metabolic diseases seen around calving can be prevented.

B) Uterine infection

Uterine infection (metritis or endometritis) usually develops within the first 21 days after calving. It is more likely after a difficult calving, retained placenta, or calving in a dirty shed. The uterus discharges a foul-smelling, reddish-brown fluid. The animal may have fever, eats and drinks less, and gives less milk. An infected uterus does not return to normal size on time, and the ovaries stay inactive or cycle irregularly, so heat is delayed or absent. Mild infection may show only as cloudy or pus-flecked mucus during heat, and such animals often fail to conceive even after repeated insemination.

Management

Keep the calving area clean and dry, with fresh bedding. Do not pull the calf or the placenta by force or with unclean hands. If the placenta has not dropped within 12 hours of calving, or if the birth canal is torn after a difficult calving, call the nearest veterinarian without delay. Any foul discharge after calving needs veterinary treatment; it should not be left to clear on its own. A traditional herbal decoction (kadha) given after calving is also useful. Boil 500 g jaggery, 50 g dry ginger (saunth), 100 g carom seeds (ajwain), 50 g fennel (saunf) and 100 g black salt in 1.5 litres of water, and let it cool. Give this decoction morning and evening for 2-3 days. It helps the uterus contract and return to its normal size sooner, and improves the animal's appetite. If infection is present, the animal still needs the veterinarian's treatment; the decoction is given alongside it.

C) Heat stress and poor housing

An animal under stress gives less milk and has poorer fertility. In north and west India the main stress is summer heat. When the temperature and humidity are high, animals eat less, the hormones that control the heat cycle are disturbed, heat signs become shorter and weaker, and early embryos are more likely to die. Buffaloes, with their dark skin and few sweat glands, suffer more than cows. Severe cold, crowding, rough handling and sudden changes of routine also add to stress.

Management

Provide shaded housing with good airflow and a roof that does not trap heat. In summer, give cool, clean drinking water at all times, use fans or sprinklers where possible, and let buffaloes wallow. Feed concentrates and green fodder in the cooler hours of morning and evening. In winter, protect animals from cold winds at night. Handle animals calmly and keep their daily routine regular.

D) Internal worms and ticks

Internal parasites take nutrients from the animal and cause weight loss and anaemia, which delays the return of heat. Ticks suck blood, which also causes anaemia, and they spread tick-borne diseases such as babesiosis, theileriosis and anaplasmosis. These diseases reduce milk yield and fertility, and severe cases can be fatal.

Management

Deworm animals at regular intervals, preferably on the basis of a dung examination and as advised by a veterinarian. Deworming in late pregnancy or soon after calving should be done only with a drug that the veterinarian confirms is safe at that stage. Control ticks with proper

acaricides under veterinary guidance, and keep the shed floor and walls clean so that ticks cannot hide and breed.

E) Prolonged suckling by the calf

When a calf suckles freely and many times a day, the suckling stimulus suppresses the hormones that restart the ovarian cycle. This effect is strong in buffaloes and in indigenous cows that are milked only after calf stimulation. The longer and more frequent the suckling, the later the first heat.

Management

Restrict suckling to fixed times, for example only at milking time twice a day, and keep the calf separate from the mother in between. The calf should still get enough colostrum in the first days and enough milk afterwards for normal growth.

F) Ovarian disorders

Some animals fail to show heat because of problems in the ovaries: inactive (smooth) ovaries, cystic ovaries, or a persistent corpus luteum that keeps the animal in a hormonal state similar to pregnancy. These cannot be identified by the farmer from outside. A veterinarian can diagnose them by rectal examination or ultrasound and treat them with suitable hormones.

Records, heat detection and timely insemination

Keep a written record for every animal: calving date, any problems at calving, dates of heat, and dates of insemination. A record makes it easy to see which animal has not come into heat on time. Any animal that has not shown heat by 60 days after calving, or has not conceived after three inseminations, should be examined by a veterinarian. Release animals with a teaser (vasectomised) bull for 3-4 hours every morning and evening, and watch them closely; the bull picks up animals in heat that a farmer may miss.

Inseminate the animal at the correct time: an animal first seen in heat in the morning should be inseminated the same evening, and one first seen in the evening should be inseminated the next morning. If the animal still does not come into heat after these steps, have her examined by a veterinarian and treated without further delay. Each heat that is missed adds about three weeks to the calving interval.