

Osteochondrosis in intensively finished bulls

Osteochondrosis is characterised by abnormal growth of the cartilage and is seen in cattle, sheep, pigs and horses. There are a number of factors which can predispose an animal to the disease, including:

- Inheritance
- Rapid growth
- Physical activity
- Gender
- Nutrition



Symptoms of osteochondrosis include lameness and stiffness within the joints, which gradually worsen as the disease progresses. Previous research has shown that lack of calcium in relation to growth rate and inadequate exercise are the main predisposing factors in beef cattle.

The following case report is a number of years old but serves to illustrate where issues occur. The farm operated a bull beef finishing system, finishing predominantly purebred dairy bulls at 13 to 14 months of age. The bulls were fed a ration containing approximately 365kg of barley, 30kg sugarbeet pulp, 25kg of molasses and 155kg protein mix during the finishing period. The protein mix consisted of 35% protein and balanced minerals.

However, approximately two months before the onset of the symptoms of osteochondrosis, unknown to the farmer, the mineral supplement had not been included in the protein mix.

Initially, several of the cattle appeared reluctant to move and were tender on their feet. They were administered with a non-steroidal anti-inflammatory drug but showed no significant improvement. The condition worsened over a period of four to six weeks, during which time, appetite was reduced and the majority of bulls showed poor weight gain and developed dry coats. Many animals appeared stiff and several showed obvious fluid swelling of the hock joints. Animals which were four to seven months old were particularly affected.

Eventually, dietary analysis flagged up inadequate calcium, sodium and copper intake and likely deficiency of vitamins A, D and E. A balanced mineral and vitamin supplement was added to the diet when it became clear that the supplement had been omitted. A gradual improvement was seen in the majority of the animals and after two to three weeks, the owner noted that growth rate and coat quality had substantially improved. However, 16 out of 76 of the four-to-seven-month-old animals and two of the 74 older animals were culled because of severe lameness problems.

Interestingly, 15 of the 18 animals culled were continental crosses which appeared to be more severely affected than the purebred dairy animals. This may represent differences in breed susceptibility as the producer reported that growth rates were similar in the different breed types.

This outbreak emphasises the need to provide adequate mineral and vitamin supplementation to the diet of intensively finished bulls to prevent serious welfare problems associated with lameness as well as ill thrift.

Further information can be found in the BRP manual [Feeding Growing and Finishing Cattle for Better Returns](#) and the BRP+ document [Trace Element Supplementation of Beef Cattle and Sheep](#)