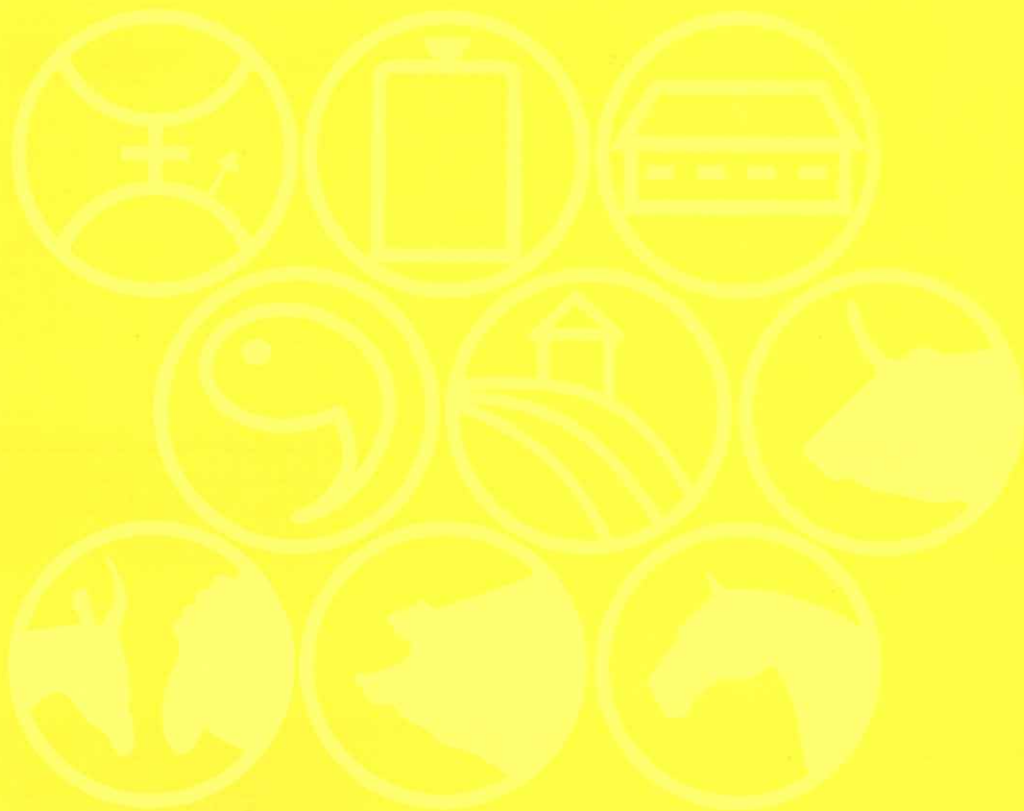


# **Book of Abstracts of the 61st Annual Meeting of the European Association for Animal Production**



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## Session 45

### **Bilateral internal thoracic artery resection. Influence in sternal wound healing after median sternotomy: early experience in the growing sheep model**

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It has been clearly demonstrated that the use of 1 or 2 internal thoracic arteries (ITA) during coronary artery bypass grafting results in excellent long-term graft patency. Unfortunately, this technique is limited by the increased risk of deep sternal wound infection and dehiscences associated with ITA harvesting because of devascularization of the sternum. Median sternotomy is the most common access for open heart surgery. Sternal wound complications, including dehiscence and infection, remain challenging. They occur in 1 to 3% of patients undergoing cardiac surgery, leading to a variable mortality rate ranging from 14 to 47%. The aim of this experimental study in the growing sheep model is to evaluate the influence of resection of both internal mammary arteries in the healing of the sternal wound. We looked also at the effects of the plasma rich in growth factors (PRGF) as an agent on bone healing. In 24 female sheep, a median sternotomy was surgically created and both internal mammary arteries were resected. In 12 of them (group control) the sternum was closed with three figure-of-eight wires. In 12 (group PRGF) three cloths of autologous PRGF were applied over the sternum after its closure in the same manner as the control group. All sheep were put to death 3 months followup. The sternum was removed and fixed. In the control group we found extensive cartilaginous areas. In the PRGF group, the presence of trabecular bone tissue was common, with formation of hematopoietic medullary tissue. The process of new bone formation was accelerated in the PRGF group and resection of both mammary arteries does not have influence in sternal wound healing.

## Session 46

### **Performance of calves fed ration containing 2-hydroxy-4-(methylthio) butanoic acid**

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Ruminal escape of methionine hydroxy analog [D,L-2-hydroxy-4-(methylthio)-butanoic acid (HMB) can be enhance calves performance. So this study was conducted to evaluate effect of HMB supplementation on growth and economic efficiency of calves. Thirty-six crossbred male calf with mean initial live body weight 251.52±3.16 kg were divided into two similar groups. Diets were identical except for HMB supplementation and the animals were fed total mixed ration containing 28.17% corn silage, 32.32% yellow corn, 10.06% soybean meal, 10.77%wheat bran 10.77% rice bran, 5.03% rice hulls 1.44% limestone, 0.72% salt, 0.36% mineral and vitamin mixture and 0.36% buffering agent of DM basis without or with 10 g HMB for G1 and G2 respectively. All nutrients digestibility and feeding value were did not affected (P<0.05) by HMB supplementation,. Supplementation with HMB significantly (P<0.05) increased both serum total protein and albumin, but decreased (P<0.05) urea nitrogen. Globulin values and albumin/globulin ratio were did not significant different. Average body weight gain was significantly increased (P<0.01) (1.145 kg) for calves fed diet supplemented with HMB than 0.995 kg/h/d for calves fed control diet. Also, feed conversion as DM, TDN and DCP were (P<0.01) improved (6.52, 4.09 and 0.52) for calves fed HMB compared with 7.51, 4.98 and 0.59 kg/kg gain, respectively for calves fed diet without supplementation. It could be concluded that supplementation of calves' diet with HMB improved efficiency of protein utilization, body weight gain and feed conversion.

## Theatre 6

## Poster 1

## Session 46

### **The effects of dry matter content and hay particle size of total mixed ration behaviours of dairy cows**

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Water addition to total mixed ration (TMR) and particle size reduction of hay minimize diet selection of dairy cows but these changes in physical form of diet affect the behaviours of cows. There is evidence that the longer the animal stands after milking for bacterial penetration of the teats when the cow eventually lies down. The objective of this study was to understand whether the particle size and dry matter content of the diet affects the behaviours of dairy cows. Eight multiparous Holstein cows were allocated to the treatment design with periods of 21 d in early lactation period. The average day in milk and dryness of cows were 28±12 d (mean ± SD) and 43±3.5 kg/d, respectively. They were fed ad-libitum with free access to drinking water. The balanced diets had the same chemical composition and were as follows (g/kg): Lucerne hay (200), maize silage (150), barley grain (310), cottonseed meal (120), safflower meal (60), wheat bran (30) and protected fat (20). Two particle sizes (10 and 20 mm) and two levels of TMR dry matter (without and with water addition) were applied in the treatments. Water was sprinkled to diet during every day diet preparation. Cows were milked three times a day. Eating, standing and lying behavioural activities were recorded by a team of observers and recorded for 24 h (5 min intervals) during 14-15th days of each treatment. The data were analyzed using mixed model procedure of SAS. Experimental treatments were DMI, eating behaviours (eating time (min/d), eating rate, meal number and meal duration) and lying behaviour (Total lying time (min/d) and Latency to lie down (min) after coming to the stall).

## Session 46

### **Effects of different levels of dried citrus pulp and urea on performance of fattening calves**

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Twenty fattening Brown Swiss male calves were used in this study. At the start of the study, they averaged 192.15±30 kg live weight and 196.3±24 days age were housed in individual pens and allocated to four experimental treatments include: 1) without urea and dried citrus pulp, 2) 12% DCP + 0% urea, 3) 0% DCP + 0.65% urea, and 4) 12% DCP + 0.65% urea. The experiment was a 2×2 factorial. The experimental diets were consisted of 35% forage (corn silage and lucerne hay) and 65% concentrate. The length of the experiment was 100 days (10 days for adaptation period and 90 days for experimental period). Feed offered andorts were measured and recorded daily to calculate feed intake. Rumen pH of calves was measured and recorded daily to calculate feed intake. Rumen liquid samples were obtained 2 hours after feeding at the end of the study. For determining of nutrients digestibility, faeces were collected and analyzed. It showed that treatments had no significant effect on dry matter intake, average daily gain, average daily gain, average daily gain, although there was a numerical increase in treatment 4 than other treatments. There isn't significant difference between rumen pH of calves. Rumen pH of calves was not significantly differ between treatments (P<0.05), which calves receiving diet 3 significantly higher than other treatments. The nutrients digestibility significantly affected by experimental treatments. Dry matter and crude protein digestibility in treatment 4 was higher than other treatments. Crude protein digestibility in treatment 3 was higher than other treatments.