The objective of this research was to determine allantoid vascular area (VA), expressed as the percentage of the total area of ovine conceptus in normal (NP) and induced multiple (IMP) pregnancies on days 20, 28 and 35 of gestation. A total of 24 ewes divided into 2 groups (NP and IMP) with the same number of animals in each were used. The IMP group was synchronized by using 60 mg of medroxyprogesterone acetate (MPA) soaked in sponges placed in the vagina for 13 days. At 48 hours before withdrawal of the sponges, each ewe was given 1500 IU of PMSG, i.m. Ewes were bred in their third heat period with a ram (natural breeding). Animals were euthanized at the above-mentioned gestational ages; afterwards their reproductive tracts were removed as well as the conceptus, which were photographed and their VA determined through a digital image analyzer. Data was analyzed using descriptive statistics, t-Student tests and correlation coefficient determination. VA was not greater than 8% of the total area of conceptus. However, AV increased drastically to a range of near 100% every 8 days in both groups. No statistically significant differences (P<0.05) were found at any age between viable embryos from both groups. Highly statistical significant differences (P<0.01) were found between viable and non viable embryos from the IMP group, and there was a highly significant positive association between AV and embryonic viability on days 20, (r=0.78; P<0.01); 28 (r=0.90; P<0.01) and 35 (r=0.91; P<0.01). Embryos can survive despite a scarce AV before day 35 of pregnancy (means range from 1.67 to 7.03%). Independent of when functional blood flow starts in the allantois, it is clear that embryonic mortality in sheep, as well as in other species, seems to be associated with a failure in allantoid vascularization. Thus, AV could be used as an accurate measurement to determine embryonic viability in post mortem evaluations.

Keywords
Sheep, vascular area, allantochorionic, embryonic survival.