

FETAL DEVELOPMENT IN THE PYGMY GOAT

From the time that the sperm unites with the egg until the finished product is delivered 21 weeks later, the growth of the fetus takes place inside the uterus and cannot be seen. But not all fertilized eggs develop into full term kids. It is important for the breeder to have a rough understanding of the stages of fetal development in order to better understand any problems that may occur during the pregnancy. Knowing the age and time of death of a fetus may help in understanding why it died.

By one of month of age, the fertilized egg has grown from microscopic to ¼” to ½” long. The features are visible as well as the limb buds. At 45 days of gestation the fetus is now 1” to 1 ½” long and weighs 1/10 to ¼ of an ounce. Eyelids are visible, the limbs are becoming more slender, and the neck elongates. By 2 months of age the fetus is 2” long and weighs an ounce – still very tiny. Just 2 weeks later at 2 ½ months (1/2 way through gestation), the fetus has grown to 4 ounces in weight and 2 1/2 “ in length. Hair is appearing on the eyelids and lips. At 3 months there is hair on the tail and muzzle and the fetus weighs about 8 to 12 ounces. By 3 ½ months of development, the fetus has hair on the body and legs, nostrils open, and weighs 13 to 19 ounces. Once month before delivery, the weight has increased to around 2 pounds. The hair coat is complete and the lower incisors are starting to erupt. Full term kids have incisors that have erupted. Most kids are delivered around 21 weeks – 147 days - but the fetus will have developed enough to survive outside the uterus after 139 days.

Age of fetus

Weight

Size

1 month		¼” to ½”	Features and limb buds visible
45 days	1/10 to ¼ ounce	1” to 1 ½”	Eyelids visible, neck and limbs elongating
2 months	1 ounce	2”	
2 ½ months	4 ounces	2 ½”	Hair on eyelids and lips
3 months	8 to 12 ounces	3 ½”	Hair on tail and muzzle
3 ½ months	13 to 18 ounces		Hair on body and legs, nostrils open
4 months	2 pounds	6”	Hair coat complete, incisors starting to erupt
21 weeks	3 to 4 pounds		Incisors erupted

Not all kids will develop at the same rate. Kids that are compromised in the uterus will have delayed development. Fetal kids must have enough room for the placenta to fully develop inside the uterus in order to receive enough nutrition to develop properly. Goats have two horns in the uterus. There is no problem with space if there is just one kid in

each horn. However when 2 or more kids are developing in a horn, not all may have enough space. These kids will be smaller at birth and may not be as developed. Lack of space for the placenta and therefore lack of nutrition may even cause the fetus to die.

Fetal death can occur anytime during gestation. And if a fetus dies, any one of several things can occur. Early in the pregnancy, the fetus is small enough that it will simply be absorbed. And if the doe is carrying other kids, nothing will be noticed. She will deliver 2 kids even though she may have started with 3. Death of one fetus may lead to the deaths of the others either in the same horn or the entire uterus. Because the goat's body does not recognize the fetus as a part of its body, a dead fetus is treated like a foreign body. It may be walled off and delivered as a mummy or partially decomposed fetus. Since the inside of the uterus is about 102 degrees and very moist, dead feti decompose rapidly. Death of a fetus may trigger delivery of all the kids. If the fetal kids are past 139 days, the surviving kids may survive.

Causes of fetal death are many. Imperfect feti usually die early in gestation. The doe may show nothing more than a return to heat or reduced number of kids. Infectious agents such as Chlamydia or Toxoplasmosis can cause abortion during the entire pregnancy and results in the loss of all the kids. Overcrowding, which leads to death of one or more feti, usually occurs late in pregnancy. Surviving kids can go on to be delivered at term and be healthy. If a doe aborts a pregnancy, then both the aborted kids and any placentas if available should be examined for the cause.