

suffered fractures of the pelvis. The ovaries became inactive until about 2 months after treatment ceased. One out of 11 animals conceived subsequently.

Cowie (6) described the pelvic changes observed above in the words: "There is a general relaxation of the pelvic ligaments and the pelvis becomes tilted forward on the head of the femur, thus depressing the coxal and sacral tubers and elevating the ischial tubers. In addition, the sacro-iliac ligaments are relaxed and the sacrum is tilted forward, the lumbo-sacral articulation being bent ventrally and the sacro-coccygeal articulation raised. The sacro-sciatic ligaments are relaxed, producing the characteristic hollow appearance of the sacral region. Trauma from persistent coital mimicry was responsible for the fractures with the changes in pelvic morphology as a probable predisposing factor."

Spriggs (30) noted excessive early sexual activity in 5 heifers and 1 cow implanted with stilbestrol tablets. The pelvic ligaments relaxed, with elevation of the tailhead and lowering of the coxal tubers. Ovaries became quiescent and small and uteri lost tone until some months after withdrawal of the tablets. The animals were held in individual pens so there was no chance of injury from coital mimicry.

PLAN OF INVESTIGATION

To study effects of stilbestrol on lactation and reproduction, 4 groups of cattle were used, including a total of 14 open heifers and 5 open dry cows. Stilbestrol was dispersed in cottonseed oil (wesson oil) in a concentration of 10 milligrams per milliliter. This was injected subcutaneously in the neck of each experimental animal, using 1 milliliter daily for 4 to 6 injections, then 2 milliliters in each of 3 injections per week until lactation began. Upon lactation the injections were discontinued with 6 of the heifers. They were continued with 8 other heifers and 1 cow for 32 to 89 days after milking began, being gauged to discontinue near the expected peak of milk production. The supply of stilbestrol became exhausted before 1 heifer that responded slowly could attain peak production.

Certain body measurements were taken at regular intervals to note changes in udder size and height of tailhead. Photographs were taken to show changes in the development of the mammary system, rump and tailhead. Some rectal examinations were made of the reproductive organs. When lactation