The JennyLynn Flow Simulator can clearly show the average vacuum level under various flow rates in milking equipment as it is set up in barns and parlors. It is extremely important to be sure accurate connections are made to the milking equipment to achieve repeatable results. Claw vacuums can be measured in one of three ways. Several manufacturers provide claws that have test ports installed on them which can be used in place of claws actually found in a particular milking system. Another method to get an accurate claw vacuum level is to push up the stem of one of the inflations approximately one-half (.5) of an inch. A two and one-half (2.5) inch long twelve (12) gauge needle can then be inserted into the stem of the liner and placed so that the needle is into the top area of the claw bowl. Another more common test method is to insert a tee directly in front of the claw outlet in the milk hose. These tees are available with both 9/16 and 5/8 inch inside diameters from Dairy Test Equipment company, 1458 Euclid Avenue, Chino, California 91710. Dairy Test Equipment's phone number is (909) 628-6744. It is important to realize that when using the tee piece between the milk hose and the claw outlet, this location can indicate vacuum level reliably but may distort the amplitude of claw vacuum fluctuations. Remember, good connections are important for reliable test information and repeatability of results in various barn situations.

The National Mastitis Council Machine Milking Committee published guidelines for evaluation of vacuum levels and airflows in milking systems at the 1995 NMC meeting. The recommendation of this committee is that vacuum should be set on milking systems that result in a mean flow vacuum within the range of ten and one-half (10.5) to twelve and one-half (12.5) inches (35 to 45 kPa) for a representative sample of cows. Field experience has shown that when claw vacuums under peak milk flow range are between eleven and three-quarters (11.75) and twelve and one-half (12.5), unit on-time decreases significantly and, in many cases, teat end condition improves. Lower mean values may indicate low vacuum in the system, excessive milk lift, restrictions in milk hoses, air leaks into the claw or milk hose, or excessive vacuum drop across ancillary equipment. Milk time analysis should also evaluate vacuum fluctuations at or near the claw during peak milk flow rate periods. The goal is to have average fluctuations of less than two (2) inches in a lowline system and less than three (3) inches in a highline system.

ing tested and not about completing the tasks associated with normal milking. In addition, the JennyLynn is an excellent education tool to show different levels of vacuum achieved in the claw when certain components are either by-passed or left in place and shorter or longer milk hoses are used during testing. There are excellent example graphs in the National Mastitis Council's 1996 meeting Proceedings to allow operators of the JennyLynn to become familiar with what type of changes can be expected due to various hose and lift configurations found in normal milking systems.

The JennyLynn Flow Simulator can be used to evaluate existing equipment in any dairy barn under varying flow rate conditions. The system vacuum can then be adjusted to maintain the average claw vacuum levels within the parameters suggested by the NMC Machine Milking Committee recommendations. Testing can be done at several locations in the milk hose simultaneously to evaluate vacuum drop across specific components between the claw and the milk line.

Potential for Milk Residues and Pharmacokinetic Values of Ketoprofen Following a Single Intravenous Bolus Injection in Lactating Dairy Goats

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Ketoprofen is a non-steroidal anti-inflammatory drug which may be beneficial in the treatment of inflammatory conditions in ruminants. This study was to determine pharmacokinetic parameters and whether or not ketoprofen achieved measurable levels in milk following a single intravenous bolus injection in lactating goats.

Six clinically normal, lactating Toggenburg does were used. Each doe was administered ketoprofen at a dosage of 2.2 mg/kg body weight. The drug was injected into the right jugular vein following the morning milking. Blood and milk samples were collected prior to and for 24 hours after drug administration. High pressure liquid chromatography (HPLC) was performed on serum and milk samples, limit of detection 10 ng/ml and 25 ng/ml respectively.

Ketoprofen had a short terminal half-life (0.32 hours), was rapidly cleared from plasma (systemic clearance = 0.74 l/kg$hr), had a volume of distribution at steady state approximately equal to extracellular fluid

(0.23 l/kg), and was at unmeasurable levels in the serum within 5 hours following administration. Ketoprofen levels in milk were unmeasurable by HPLC (level of detection 25 ppb) for all samples.

Disorders while posing minimum potential for milk residues in lactating ruminants.These results provide initial data for the study of milk residues due to ketoprofen administration in ruminants. Ketoprofen at a dosage of 2.2 mg/kg may be beneficial in the treatment of inflammatory.

Livestock Identification, the Benefits of Regulatory Involvement Past, Present, and Future

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Livestock identification has played a vital role in our surveillance programs for the eradication of tuberculosis and brucellosis. However, there is an increasing need for new and existing identification systems to better identify our nations livestock for existing and emerging diseases. Better understanding of the role of regulatory and industry involvement in the development of new identification systems is essential to meet the future needs for livestock identification. Type of presentation: poster board.

The persistent activity of Ivermectin in cattle challenged daily with Nematodes

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To investigate the persistent nematocidal activity of the injectable formulation of ivermectin under repeated challenge conditions, three studies were conducted in which the trial animals were administered infective larvae daily. In each study, 14 nematode-free calves were allocated by restricted randomization on weight to one of two treatment groups: unmedicated control or ivermectin injected subcutaneously at 200 g/ kg body weight. Animals were treated at Day 0. Starting at Day 0 and daily thereafter, all animals were artificially infected for 14 or 15 days with third-stage larvae of *Haemonchus placei* (500 larvae/day), *Trichostrongylus axei* (1000/day); and *Cooperia* spp. (1000/day); for 21 or 22 days with *Ostertagia ostertagi* (1000/day) and *Oesophagostomum radiatum* (100/day) and for 28 or 29 days with *Dictyocaulus viviparus* (50/ day). Trial animals were sacrificed for nematode quantification using standardized techniques, by replicate on Days 49-51. Parasite counts for each animal were transformed to ln (count +1). Geometric means were calculated and results for each medication were compared to controls by the modified Friedman's test for combined data. Mean counts for the medicated group were reduced (99%, p<0.01) compared to control counts for *T. axei, H. placei, Cooperia* spp., and *O. ostertagi*. *Oes. radiatum* and *D. viviparus* mean counts in the medicated group were reduced (98%, p<0.01 and 94%, p<0.01, respectively) compared to control counts. These results indicate that IVOMEC injection effectively controlled *Haemonchus, Trichostrongyles* and *Cooperia* for 14 days, *Ostertagia* and *Oesophagostomum* for 21 days and *Dictyocaulus* for 28 days under conditions that simulated challenge under field conditions.