**Antibiotic Sensitivity test on Nasal Swabs Collected from Calves at Ridiyagama NLDB Dairy farm - A case Study.**

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**ABSTRACT**

Calves Pneumonia is critical and widespread diseases among calves. It leads to losses in the dairy sector. Antibiotics are recommended for this disease, which leads to the development of resistance against the antibiotic, which harm human health. Predisposing factors should identified to mitigate this condition.This study aimed to identify antibiotic sensitivity of calves' pneumonic condition at Ridiyagama NLDB dairy farm and detect susceptibility of these isolates to ten commonly used antibiotics Norfloxacin (NX 10mcg), Enrofloxacin (EX 10mcg), Streptomycin (S 25mcg), Doxycycline Hydrochloride (DO 30mcg), Trimethoprim (TR 25mcg), Nalidixic Acid (NA 30mcg), Ciprofloxacin (CIP 30mcg), Ampicillin (AMP 10mcg), Amoxicillin (AMX 30mcg) & Tetracycline (TE 30mcg). Based on clinical observations, swabs samples were collected from infected bull and heifer calves of 2 to 8 weeks. Swabbed samples were dipped in lactose agar broth media and then spread on prepared Muller Hinton Agar. Kirby Bauer disk diffusion method was conducted, and the inhibition zone's diameters were measured. It exhibited that two samples were resistant to all antibiotic types (sample numbers 15800 & 16024). In one sample (sample number 15390), there was an inhibition zone around the NX 10mcg disc. Of the 10 samples, only one had an inhibition zone around all the antibiotic discs. All other samples did not have an inhibition zone for Trimethoprim (TR 25mcg), Ampicillin (AMP 10mcg), and Amoxicillin (AMX 30mcg). The causative agents of calves' Pneumonia at NLDB Ridiyagama Farm are highly resistant to Trimethoprim (TR 25mcg), Ampicillin (AMP 10mcg), and Amoxicillin (AMX 30mcg). Since the causative microorganism shows sensitivity to Norfloxacin (NX 10mcg) and Ciprofloxacin (CIP 30mcg), both antibiotics can be used as a quick remedy to mitigate Calves' Pneumonia at the NLDB dairy farm, Ridiyagama. The effectiveness of both antibiotics and their combination with other antibiotics should further investigate to get the best results.

**Keywords**: *Antibiotic Resistance, ABST, Antibiotics, Calf Pneumonia*