THE VALUES OF SOME ECG COMPONENTS IN DAIRY COWS, USING DUBOIS LEADS

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SUMMARY

Our purpose in this study was to obtain data regarding the values of some electrocardiographic components in 46 healthy dairy cows in different phase of lactation; aged between 4 and 9 years old. We recorded ECG in cattle using lead II of Dubois leads; because the recording is easy to „read” (the electrocardiographic waves have a high amplitude and they are easy to observe).

Materials used for recording ECG in cows are represented by the following: the ECG machine; the electrodes that transmit the electric heart field to the heart to ECG machine and the conduction substance which makes the contact between electrodes and animal’s skin.

For recording ECG in cows we used crocodile clips (because they are better than other captators: metal slates or cups). We also; used alcohol or ECG special gel; as contact solution between electrodes and animal’s skin.

The ECG parameters used for recording ECG in dairy cattle were 10 millimeters for the amplitude of 1 milivolt and paper speed 25 mm/sec (because dairy cattle have a low heart rate).

We obtained the following results: length of P wave was 0.087 ± 0.002 seconds (average and the average standard error); duration of ventricular complex was 0.075 ± 0.002 seconds; length of T wave was 0.085 ± 0.002 seconds.

Regarding the duration of some segments and intervals; we obtained the following values: length of PR segment was 0.127 ± 0.003 seconds; PR interval duration was 0.215 ± 0.004 seconds; QT interval was 0.371 ± 0.008 seconds; PT interval duration was 0.588 ± 0.008 seconds; duration of TP segment was 0.167 ± 0.009 seconds; length of ST segment was 0.207 ± 0.006 seconds; duration of RR interval was 0.760 ± 0.017 seconds.

The heart rate was 80.18 ± 1.796.

Comparing our results to the other found in the literature in the field; we observe that our dates are alike; regarding the value of electrocardiographic components. We consider that the recording and interpretation ECG in cattle is useful in many medical-veterinarian decisions; because they permit to observe many heart diseases in cattle (miocardic dystrophy; atrial and ventricular enlargements; pericardium effusion; etc).