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Secretaría de Desarrollo Agropecuario del Gobierno del Estado de México, Secretaría de Agricultura, Ganadería, Desarrollo Rural,
Pesca y Alimentación, Consejo Mexiquense de Ciencia y Tecnología

**DISEASES DIAGNOSED IN RABBITS SENT TO CIESA COMING FROM THE
VALLEY OF TOLUCA DURING 2004 TO 2013**

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ABSTRACT

Disease monitoring in rabbit populations is scarcely done and epidemiological surveillance is passive in type; reports are incomplete and isolated making it imperative that strategies be established to strengthen this production sector, due to its relevance as an alternative food producing species. The purpose of this study is to report the diseases that affect rabbits found in the Valley of Toluca, State of Mexico, Mexico and that were sent for diagnosis to CIESA. Studies that were carried out included necropsy, histopathology and bacteriology of live and dead rabbits of different genders, ages, races and types of production, that were received between 2004 and 2013. From a total of 75 cases the most frequent diseases were: coccidiosis 14,6%; pneumonia associated to *Pasteurella multocida* and *Bordetella bronchiseptica* 13.7%; mucoid enteropathy 10%; malnutrition 7.3%; salmonellosis 6.4%; hydatidosis 6.4%; interstitial pneumonia 6.4%; hepatic coccidiosis 4.5%; colibacillosis 4.5% and muscle and skeletal disorders 4.5%. The other 21.7% is represented by diseases such as: mycoplasmosis, necrotic hepatitis, otitis by ticks, pyometra, subcutaneous abscesses, psoroptic mange and stress.

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Key words: rabbits, diagnosis, diseases.



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Introduction

Epidemiological surveillance in domestic animal species considered as conventional is scarce and at its best it is carried out as passive epidemiological surveillance or as a part of a project of status diagnosis of a certain animal species, and specific disease, as well as within a specific geographical space and time frame. Rabbit breeding is not an exception in this type of disease monitoring in Mexico. Likewise, there is the inconvenience that there is no updated rabbit-breeding census, and there is a lack of knowledge on their geographical distribution, breeding systems and population densities. Another factor is that rabbit breeders do not have enough sanitary training to be able to handle diseased and dead rabbits and are not used to sending them to specialized diagnostic laboratories for their necropsy and complementary studies in order to obtain an integral diagnosis and thus establish appropriate preventive medicine programs to reduce economic losses and make the rabbit farm more income-yielding. Due to the above, there is no sanitary profile objective in most of the rabbit breeding farms, and therefore if there is a preventive medicine program in the best of cases it only includes general and non-specific actions, according to community customs and the criteria of the breeder and sometimes that of a veterinary doctor that may be responsible for the farm.

Even though there are rabbit disease reports in specific geographical areas and within limited time frames, these are not sufficient to have a true image of the zoosanitary profile correlated to a census in order to establish morbidity, mortality and how lethal the etiological agents are to the rabbit population.

Therefore, our objective is to cite the diseases that have been diagnosed more frequently in the cases sent to the laboratory to identify the cause of death.

Materials

Results reports of necropsy, histopathology and bacteriology of live and dead rabbits of different genders, ages, races and types of production, that were received between 2004 and 2013 at the laboratory were used for this analysis.

Method

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Of all the cases that were received, the cases that corresponded to the study species were selected, thus during the ten study years, a total of 75 cases were selected. These were analyzed by results, listing all diagnosis and grouping them by disorder or disease and reporting them in percentage.

Results and discussion

The most frequent diagnosis were ten diseases that represent 78.3% of the total: coccidiosis 14,6%; coccidiosis 14,6%; pneumonia associated to *Pasteurella multocida* and *Bordetella bronchiseptica* 13.7%; mucoid enteropathy 10%; malnutrition 7.3%; salmonellosis 6.4%; hydatidosis 6.4%; interstitial pneumonia 6.4%; hepatic coccidiosis 4.5%; colibacillosis 4.5% and muscle and skeletal disorders 4.5%. The other 21.7% is represented by diseases such as: mycoplasmosis, necrotic hepatitis, otitis by ticks, pyometra, subcutaneous abscesses, psoroptic mange and stress, amongst others.

In 1984, the viral hemorrhagic disease of rabbits became known in China and it was quickly disseminated throughout the world; in 1988 it infected European rabbits *Oryctolagus cuniculi* and rabbits in the American Continent. Mexico was the first country affected by the illegal importation of rabbit carcasses from China and coming from the United States of America.

Zamora *et al.*, (2003), made a report of disease diagnosis in rabbits during nine years underlining the importance that mucoid enteropathy has above other diseases; in our current study this disease occupies the third place in frequency.

Our results are similar to the ones by Respaldiza (1990), in that coccidiosis is the most frequent disease that affects rabbits, even though we must recognize that in difference with our results, Respaldiza (1990), went further in the detection of the coccidian species that were involved. As a second cause he identified passalurosis, the rabbit pinworm; while in our study pasteurellosis is in second place.

The disease type is determined according to the geographical location and host, as is shown in our results that are totally different with the ones reported by Insuasty *et al.*, (2008), where they identified through histopathology, microbiology and parasitology tests that the wild rabbit populations *Sylvilagus brasiliensis* found in a buffer zone of the park known as Parque Natural el Nevado, in Toluca, State of Mexico, Mexico act as intermediate hosts for *Taenias* sp and



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Echinococcus sp., as well as suppurative dermatitis caused by ectoparasites and bacteria such as *Staphylococcus aureus*. Likewise, Valladares *et al.*, (2009), reported the presence of hydatidosis in a wild rabbit from an area close to the Nevado de Toluca, and in our study this parasitosis is amongst the ten most frequent diagnoses.

We coincide with Valladares *et al.*, (2011), in that the pneumonic problems are associated mainly with *Pasteurella multocida* and *Bordetella bronchiseptica*, and in our results the first one was isolated most frequently in the bacteriological studies.

In the report of rabbit diseases by Zamora *et al.*, (2003), there is a coincidence in that the most frequent pathological processes are: hepatic coccidiosis, pneumonia by *Pasteurella*, salmonellosis, colibacillosis, mucoid enteropathy and malnutrition. In that report, there is a difference with our current study in that they also cite as important the following: suppurative hepatitis, enterotoxaemia, aflatoxicosis and mycoplasmosis and to a lesser degree: interstitial nephritis, suppurative dermatitis and myositis; and suppurative endocarditis and pericarditis.

Conclusions

The production of rabbit population census can no longer be delayed as well as the promotion of the laboratory diagnostic services use in order to establish the zoosanitary profile and establish the respective preventive medicine programs. Likewise this study shows that the most frequently diagnosed diseases were: coccidiosis; pasteurellosis; enteropathy; malnutrition; salmonellosis; hydatidosis; interstitial pneumonia; hepatic coccidiosis; colibacillosis and muscle and skeletal disorders.

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