

EVALUACIÓN DE LA MORTALIDAD EN EL SÍNDROME RESPIRATORIO, AGUA-PIENSO Y HALLAZGOS ANATOMOPATOLÓGICOS EN CRÍAS Y PRECEBAS PORCINAS.

EVALUATION OF MORTALITY IN RESPIRATORY SYNDROME, WATER-CONCENTRATED AND ANATOMOPHATOLOGICAL FINDING IN SWINE NEWBORN AND PIGLET.

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Abstract

Mortality was assessed on the pig respiratory syndrome categories: newborn *and piglets* in 2012-2014 periods. It was analyzed the results of examinations of drinking water (pool-drinking device) and concentrated (sensory, physicochemical and microbiological). Pathologic findings (macroscopic) of the autopsied animals were set up. It was employed the SPSS version 15 for data processing. Total mortality in respiratory syndrome occurs in piglets. Pool water shows sensorial and microbiological changes but not in drinking device. There were changes in sensor, physic-chemical and microbiological parameters in feeding. Anatomopathological finding showed that totality of newborn mortality was due to Colibacillosis but 42.86% of piglets died by Colienterotoxemy, 28.58% by Swine Dysentery and 14.28% and by Fibrinous Pneumonia and 14.28% by Catarrhal Bronchopneumonia

Key words: Newborn, piglets, respiratory syndrome

Resumen.

Se evaluó la mortalidad en el síndrome respiratorio en las categorías porcinas: crías y precebas en el período comprendido del 2012-2014. Se analizó los resultados de los exámenes de agua de bebida (pozo-tetinas) y pienso (sensoriales, físico-químicos y microbiológicos). Se tuvo presente los hallazgos anatomopatológicos (macroscópicos) de los animales autopsiados. En el procesamiento de los datos se empleó el paquete estadístico SSPS versión 15. El total de la mortalidad por el síndrome respiratorio ocurrió en la categoría de precebas. En el análisis del agua de pozo se presentó alteraciones sensoriales y microbiológicas, no siendo así en el agua de las tetinas, mientras que en el pienso se evidenció alteraciones en los parámetros sensoriales, físico-químicos y microbiológicos. Los hallazgos anatomopatológicos (macroscópicos) arrojaron que la totalidad de las crías murieron a causa de la colibacilosis y las precebas por Colienterotoxemia el 42.86%, Disentería porcina un 28.58%, Neumonía fibrinosa y Bronconeumonía catarral focal un 14.28%.

Palabras claves: Crías, precebas, síndrome respiratorio.

The emergence and development of specialized pig was boosted by its efforts to meet the demands of food of high nutritional value, achieving incorporate this type of exploitation Cuban economy as a priority line reaching more intensive and concentrated production in our upbringing and thus more and better productions that manage supply a part of the food needs of our people.

In today's world one of the most pressing issues is the lack of food suffered by much of the world's population, especially those developing countries; due to low grain production and rapid population growth which is a fundamental task the prevention of infectious processes in different swine categories (Cintora, 2004 and Huerta, 2004).

For animals growing health problems are exacerbated because pigs are regrouped and mixed, suffering high levels of stress, losing passive immunity, resulting in pneumonia two to three weeks after weaning. In conclusion, if pigs are handled in the same way, the result is the presence of a number of preventable diseases (Fuentes, 2001).

The work presented as:

Scientific problem.

Mortality respiratory syndrome in swine breeding and pre-fattening categories.

Hypothesis

Respiratory syndrome in different pig categories leads to high mortality.

General purpose:

Assess mortality in porcine respiratory syndrome into two categories as well as microbiological in food, drinking water and pathological results (macroscopic) animals autopsied over a period of three years.

Specific objectives:

1) To evaluate the trend in mortality gastroenteric syndrome in swine categories: precebas breeding and in the period from 2012 to 2014 period.

1) To analyze the results of analyzes of drinking water (teats and well), I think and pathology (macroscopic) animals autopsied in the years analyzed.

Materials and methods.

The work was performed in a swine entity, evaluating mortality from respiratory syndrome in two different swine categories: young and precebas in the period from 2012 to 2014. The results of the tests of drinking water were analyzed: well (032- Normative References 2: 1986) and nipples (NC: 827: 2011) as well as sensory, physical and chemical analyzes (NC: 74-22: 1985) and microbiological (NC: ISSO-605: 2008, NC: ISSO-7459: 2009, NC: ISSO-4832: 2010) start feed imported Sagarpa A-0864-112 Championships. pathologic findings (macroscopic) of autopsied in the three years in the Provincial Veterinary Laboratory of Villa Clara animals were evaluated.

Data were obtained from passive files of the Statistics Department of swine entity, creating databases in Microsoft Excel that were exported to the statistical package SPSS version 15; The data was analyzed by descriptive statistics (analysis of time series, absolute frequency, relative frequency and average) .To determine trends moving averages are used widely in March

Resultados y discusión

In the analyzed period (2012 - 2014) in pig entity died of 145 precebas respiratory diseases representing 100% of the overall mortality for the categories analyzed, while raising no deaths occurred in this connection (Table 1). Aspect that could be associated with the management system, the immune status of the animals and a complex interaction with other pathogens. According to Pinto et al., (2012) state that in operating systems and swine production under

intensive farming, with inadequate levels of health there may be a high mortality due to the absence of "immunological memory" against biological pathogens and therefore a low ability to evade immune infection and bacterial colonization system.

Table 1. Mortality in pigs by expiratory syndrome in newborn and piglets.

Mortality	Absolute Frequency	%
Piglets	145	100
Newborns	0	0
Total	145	100

Source: Record control of the main causes of death.

χ^2 of goodness of fit = 4,713 $P < 0,05$

In 2012 the highest mortality from respiratory syndrome in the category of precebas took place in July to 11.8% in 2013 during the months of January (10.7%), June (14.3%) and November (12.5 %), while in 2014 during the months of April, June and November (10.5%), August (15.8%) and September (21.5%) (table 2) .During the period of 2014 the greatest damage occurred due to irregularities in the zootechnical aspect. We do not disagree with Anonymous, (2006) which states that there are a set of requirements and / or measures that must be followed and measures to prevent the spread of disease in operating systems and pig production.

Table 2. Mortality by respiratory syndrome in piglets.

Month / Year	2012	%	2013	%	2014	%
January	4	7,8	6	10,7	1	2,6
February	5	9,8	5	8,9	2	5,3
March	5	9,8	4	7,1	3	7,9
April	3	5,9	4	7,1	4	10,5
May	4	7,8	3	5,4	2	5,3
June	4	7,8	8	14,3	4	10,5
July	6	11,8	4	7,1	1	2,6
Agost	3	5,9	3	5,4	6	15,8
September	4	7,8	4	7,1	8	21,1
October	5	9,8	4	7,1	2	5,3
November	4	7,8	7	12,5	4	10,5
December	4	7,8	4	7,1	1	2,6
Total	51	100	56	100	38	100

Source: Record control of the main causes of death.

In a further analysis of the water sample well indicate that alterations in sensory evaluation showed the appearance and also in the microbiological indicators, showing poor hygienic and sanitary conditions. In samples of chlorinated water nipples, sensory evaluation thereof was not altered. Microbiological indicators show that it meets the quality specifications (Table 3). According suggestions Salado, (2011), the limits of Total Coliforms: 2.2 MPN / 100 ml fecal coliform (E. coli and fecal colif.): 0 MPN / 100ml. When the water source has alterations in the

organoleptic and microbiological indicators presenting probabilities rise diseases, gastrointestinal being the most important.

Table 3. Water sensory and microbiological analysis.

Sensory analysis			
Agua de pozo Water well		Agua de tetinas Water nipples	
Appearance	Light dirt particles in the background	Appearance	Typical
Smell	Typical	Smell	Typical
Color	Typical	Color	Typical
Microbiological analysis			
MPNv <i>Coliformes</i> total/100 mL	>16	MPN C. total/100 mL	<2.2
MPN <i>Coliformes</i> fecals/100 mL	>16	MPN C. fecals/100 mL	<2.2
<i>Escherichia coli</i>	Negative	<i>Escherichiacoli</i>	Negative

Source: Record control analysis of water samples. **Legend:** MPN: Most probable number

The analyzes show that the feed point from the sensory disturbances occur in the appearance, however physical-chemical, humidity indicator is slightly raised. Microbiological indicators say that the tolerances for counting fungi (Table 4) is exceeded. Studies by Campabadal, (2009) showed that the sudden change in food and physico-chemical and microbiological, sensory disturbances of feed affects the development and growth of animals causing respiratory diseases.

Table 4. Feed sensory, physic-chemical and microbiological analysis.

Sensory analysis	
Appearance	Abundant powder
Smell	Typical
Color	Typical
Physic-chemical analysis	
% Humidity	12.8
% Dry Matter	87.2
Microbiological analysis	
Coliformes total/g	-10^2

Quantity of fungus /g	11 * 10 ³
<i>Salmonella</i> /25g	Absent

Source: Control Register analysis of feed samples.

Pathological Results showed that all calves died of colibacillosis. Regarding colienterotoxemia precebas by 42.86%, 28.58% swine dysentery one, by fibrinous pneumonia and bronchopneumonia catarrhal one focal 14.28%.

Table 5. Anatomo-pathological results of newborn and piglets.

Diseases	Newborn		Piglets	
	Quantity	%	Quantity	%
Colibacillosis	9	100		
Colienterotoxemia			3	42.86
Swine dysentery			2	28.58
Fibrinous pneumonia			1	14.28
Focal catarrhal bronchopneumonia			1	14.28
Total	9	100	7	100

Source: Register of shipping control to the Department of Pathology of the Provincial Veterinary Diagnostic Laboratory.

Conclusions.

- } In the evaluation period (2012 - 2014) the total mortality from respiratory syndrome occurred in the category of piglets.
- } Water Well presented sensory and microbiological changes, not the case in the chlorinated water of the teats.
- } In the feed there were changes in the physico-chemical and microbiological sensory parameters.
- } The pathological findings showed that the main deaths in pups was due to Colibacillosis in piglets to colienterotoxaemia, swine dysentery, pneumonia and fibrinous focal catarrhal bronchopneumonia.

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