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| ٦٣٦.٠٨٩.٦ | تصنيف ديوى: |
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| Epidemiological studies on Salmonella in some = poultry farms | العنوان: |
| دراسات وبائية عن ميكروب السالمونيلا داخل بعض مزارع الدواجن \ | بيانات أخرى: |
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| Despite significant advances, diseases still takes a heavy toll from all types of poultry enterprise. Those who exercise farm management decisions have the power to reduce these losses through management for disease control. Although many other pathogens have recently received considerable attention, Salmonella remains among the leading sources of food-borne illness throughout much of the world. A poultry producer suffers losses due to Salmonella infection of the flock including loss of birds and production time. In Egypt many farms were constructed but most of them not consider the hygienic rules either in construction or breeding system and this leads to enhancement of many avian pathogens among them is | ملخص: |

.Salmonella infection

:The present study includes

Isolation and identification of Salmonella from .A
environmental samples

A total of 1280 samples, including air (320), litter (320), feed (320) and water (320) were collected from different farms. The samples collected equally in winter and summer seasons as 640 samples collected per season, the result of isolation and identification of :Salmonella from these samples were as follow

The percentage of Salmonella isolated from .) environmental samples from different farms was 4.69 .%

Little variations were recorded in the percentages of .ʃ Salmonella in environmental samples between the three farms of open system 8.12, 7.5 and 3.75 %, .respectively

The incidence of Salmonella in farm of closed .ʄ system was lower than that of open system 1.88 % .versus 6.46 % for open system farms

Salmonella percentages in samples of layers farms .ε with caged system were 1.88 and 1.88 %, respectively and totally 1.88 % that is lower than the average of .% percentages of broiler farms 5.31

Salmonella percentages in samples of breeder farms .ο were 6.25 and 6.25 %, respectively and totally 6.25 % that is lower than the average of percentages of open .% system broiler farms 6.46

The highest percentage of Salmonella was recorded .٦ in litter samples 7.81 % followed in order by water .% 5.31%, feed 3.44 % and air 2.19

The percentage of Salmonella was found to be .٧ higher in winter 5 % than in summer 4.58 % generally, but for all samples as follow; air (4% in winter and 3% in summer) and litter (9.37 % in winter and 6.25 % in summer), but its reversed in water samples (4.37 % in winter and 6.25 % in summer) and

(feed (3.12 % in winter and 3.75 % in summer
Isolation and identification of Salmonella from .B
:chickens samples

A total of 160 chicken samples including 40 samples
from broiler organs and 120 cloacal swabs were
collected from different farms. The samples collected
equally in winter and summer seasons, the result of
isolation and identification of Salmonella from these
:samples were as follow

The overall incidence of Salmonella recovered .1)
from broiler organs, broiler cloacal swabs, layers
. % cloacal swabs and breeder cloacal swabs was 5.62

The percentage of Salmonella isolated from broiler .2)
. % chicken organs was 5

The percentage of Salmonella isolated from broiler .3)
. % cloacal swabs was 7.5

The percentage of Salmonella isolated from layers .4)
. % cloacal swabs was 5

The percentage of Salmonella isolated from breeder .5)
. % cloacal swabs was 5

The highest percentage of Salmonella which .6)
recovered in winter season 6.25 % which is lower than
. % that recovered in summer 5

The percentage of Salmonella was higher in broiler .7)
chickens aged 3-6 week (10 %) than broiler chickens
(% aged 1-2 week (5

Salmonella isolated from hatchery environment .C
:and eggs

A total of 150 samples including 100 samples from
the environment of breeder hatcher and 50 hatching
eggs, the result of isolation and identification of
:Salmonella from these samples were as follow

The overall incidence of Salmonella recovered .1)
. % from the hatchery environment and eggs was 5.5

The percentage of Salmonella isolated from .2)
environmental swabs samples collected from wall and
. % floor of setter and hatcher was 8.75

The percentage of Salmonella isolated from hatching eggshells was 4%, while from egg contents it was 2%.

Serological characterization of Salmonella isolates

Isolates of Salmonella recovered from chickens, eggs and environmental samples subjected to serological identification resulted in the following Salmonella serogroups recovered from chickens:

- were S. enteritidis, S. typhimurium and S. derby

Salmonella serogroups recovered from environmental samples:

- were S. enteritidis, S. typhimurium, S. kentucky, S. anatum and S. derby

Salmonella serogroup Enteritidis was found to be the most prevalent serogroup among isolates of chickens and environmental samples as it represents 37.5% of the identified serogroups.

Detection of Salmonella directly in enriched samples

(samples by polymerase chain reaction (PCR) technique could detect Salmonella in 4 samples of chicken cloacal swabs out of 50 examined samples (8%), compared to 3 samples recovered by conventional bacteriological method (6%).

PCR technique could detect Salmonella in 3 samples of environmental samples out of 55 examined samples (5.45%), compared to 4 samples recovered by conventional bacteriological method (7.27%).

The overall incidence of Salmonella recovered from chicken cloacal swabs and environmental samples under experiment was 6.66% by PCR and 5.71% by conventional bacteriological method.

The pre-enriched PCR technique found to be more accurate, sensitive and rapid test in detection of Salmonella in chicken cloacal swabs and environmental samples than conventional bacteriological method.

Molecular typing of Salmonella isolates by random amplified polymorphic DNA (RAPD-PCR)

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| <p>The present study reported the use of RAPD-PCR analysis as a mean of genetic typing of avian Salmonella serotypes, and investigates the degree of relatedness between the five isolated serotypes isolated from chickens and from environmental samples.</p> <p>The results of RAPD-PCR technique carried out on five Salmonella serotypes (S. enteritidis, S. typhimurium, S. kentucky, S. anatum and S. derby), cleared that there are different degrees of genetic similarity between Salmonella serotypes isolated chickens and environmental samples as follow:</p> <p>S. anatum with S. typhimurium (52 %), S. anatum (% with S. derby (57 %), S. anatum with S. kentucky (62 %), S. anatum with S. enteritidis (48 %), S. typhimurium with S. derby (67 %), S. typhimurium (% with S. kentucky (43 %), S. typhimurium with S. enteritidis (38 %), S. derby (% with S. kentucky (37 %), S. derby with S. enteritidis (33 %), S. Kentucky with S. enteritidis (29%).</p> <p>These results indicate that there are different degrees of polymorphism between the 5 serotypes under investigation from lower degree of genetic similarity (29%) between S. kentucky and S. enteritidis to higher degree (67 %) between S. typhimurium with S. derby. There is a correlation has been found between the results of Salmonella serotyping and that of RAPD-PCR technique.</p> <p>The obtained results and the hygienic importance of Salmonella isolated from different samples were discussed.</p> | |
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