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Research Paper

Influence of *Staphylococcus Aureus* Mastitis on Milk Composition of Different Dairy Breeds of Cattle in Khartoum State, Sudan

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ABSTRACT

The purpose of the present study was to investigate the effect of *S. aureus* mastitis on the compositional quality of milk. Sixty milk samples were collected from 19 Frisian, 16 cross and 25 local cows suffering from subclinical (14) or clinical (46) mastitis from different farms in Khartoum State, Sudan. Total bacterial count,

S. aureus

count and some compositional quality were estimated. Non-significant ($P \geq 0.05$) differences were recorded between the milk obtained from the three groups of dairy cattle for total bacterial count. However, significantly ($P \leq 0.05$) higher

S. aureus

count was obtained (2.7×10^3

± 0.7 cfu/ ml) for milk samples from cross- bred cows. Chemical analysis revealed no significant ($P \geq 0.05$) differences in total solids (11.87 ± 1.7 and $11.1 \pm 1.6\%$), protein (4.3 ± 2.8 and $3.6 \pm 0.5\%$), fat ($3.1 \pm 0.7\%$ and 3.10 ± 0.5), lactose (2.3 ± 0.5 and $2.1 \pm 0.7\%$) and acidity (0.211 ± 0.14 and $0.44 \pm 0.36 \%$) for milk obtained from cows with subclinical and clinical mastitis, respectively. However, significantly higher ash content was found in milk samples collected from clinical mastitis ($0.68 \pm 0.12\%$) compared to subclinical ones ($0.6 \pm 0.15\%$). Milk constituents of infected milk by

S. aureus

revealed non-significant ($P \geq 0.05$) differences expect for lactose ($P < 0.01$), which showed variations between breeds. Total bacterial count showed significantly ($P \leq 0.05$) negative correlation ($r = -0.037$) when compared with lactose content of mastitic milk. It could be concluded that mastitis caused by

S. aureus

would resulted in the decrease the nutritive content of milk.

Keywords: *Staphylococcus aureus*, Mastitis, Milk Composition, Dairy Breeds, Sudan

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Research Paper

Growth Performance, Proximate Muscle Composition And Dress-Out Percentage of Nile Tilapia (*Oreochromis Niloticus*), Blue Tilapia (*O. Aureus*) and their Interspecific Hybrid (*O. Aureus X*

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O. Niloticus

) Cultured in Semi-Intensive Culture System

El-Hawarry WN.

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ABSTRACT

O. niloticus and *O. aureus* and their interspecific hybrid (\square *O. aureus* x \square *O. niloticus*), fry were produced in early September 2008 from a mass spawning of brooders in earthen spawning ponds. Fry for each genotype were nursed and overwintered in deep nursery ponds. Thereafter; six earthen growout ponds were used for communal stocking of each genotype (two replicates genotype

-1

). The growth performance of purebred

O. niloticus, *O. aureus*

and their interspecific hybrid (

\square *O. aureus*

x

\square *O. niloticus*

) were studied. The highest records ($P < 0.05$) of final body weight (FBW), average daily gain (ADG, g fish

-1

day

-1

), specific growth rate (SGR, % day

-1

), total fish yield (TFY, kg feddan

-1

day

-1

) and net fish yield (NFY, kg feddan

-1

day

-1

) were achieved by interspecific hybrid (

\square *O. aureus*

x

\square *O. niloticus*

) compared with the other purebred genotypes of tilapia.

O. niloticus, *O. aureus*

and their hybrids reached 237.81 ± 36.65 g, 142.97 ± 11.45 g, 281.23 ± 45.52 g, respectively, at the end of a 112 day culture period. Both purebred genotypes and their interspecific hybrid had similar moisture, crude protein content and crude lipid content ($P > 0.05$); however; it should be noted that value of the crude lipid content was lower in the interspecific hybrid (

□ *O. aureus*

x

□ *O. niloticus*

) than in purebred genotypes. Meanwhile, the hybrid dress-out% was intermediate to the purebred parental genotypes. These advantages of hybrid (

□ *O. aureus*

x

□ *O. niloticus*

) together with its characteristics for salinity, cold tolerance and disease resistance as reported in previous works are highly indicative for the commercialization of hybrid tilapia farming in Egypt. It should also pointed out that it is not an intention to promote hybridization as the only method of genetic improvement, but simply as one method of improvement that has potential for some immediate gains. Desirable traits can usually be passed to the hybrid in one generation but it should be appreciated that hybridization can be a hit and miss proposition. Additionally; it may be desirable to backcross to either parental line or to breed the hybrids together and then select the best animals, thus combining hybridization and selective breeding

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Keywords: Purebred, *Oreochromis niloticus*, *Oreochromis aureus*, Inter-Specific Hybrid Tilapia, Growth and Production Traits.

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Research Paper

Some Behavioral Traits of Red Neck Ostrich under Captive Conditions

Mohammed Ahmed FA, Mohammed Salih RR. and Mohamed AS.

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ABSTRACT

The present study has been conducted to observe some behavioral traits of ostrich under captive conditions. The observations have been carried during the period 14 June to 24 June, 2005, for 8 equal time period, extending for 24 hours from 0600 pm hour to 0600 p.m hour next day. The bird flock consisted of two adult males and adult female, kept in the Collage farm, in a cage joined to a fence to allow for free movement. The recorded behavioral activities included: standing in the sun, standing in shade, laying in the shade, laying in the sun, staying in the cage, movement and sitting on the knees, feeding, drinking, quarrel, urination, defecation, ritual display, courtship, and preening. It was noticed that the most time consuming activities were standing in the sun, standing in the shade, laying in the shade, and movement. The longest period of the time budget was taken in laying in shade (250.3 min.). The shortest fraction of the time budget was spent in courtship maneuvers (3.25 min.). The main target of the study was to provide ostrich breeders with useful information for better management.

Keywords: Behaviour, Ostrich, Captivity Condition, Birds

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