Welcome

INFLUENCE OF PARENTAL AGE ON THE HATCHING PERFORMANCE OF COLOUR BROILER BREEDERS IN TAMILNADU, INDIA

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Introduction

- In India, colour broiler breeders are being reared in many states mainly for meat and egg production.
- Resembles native chicken in plumage colour pattern.
- Consumers prefer brown shelled egg.
- Great demand for meat and egg both in rural and urban areas.
- TANUVAS colour broiler breeders- NANDANAM BROILER II and NANDANAM BROILER III
- Factors affecting fertility and hatchability of chicken- age of the parent stock(Kingori 2013)
- Influence of parental age on hatching performance of colour broiler breeders is limited

COLOUR BROILER BREEDERS





objective

To find out the influence of parental age on hatching performance of colour broiler breeders.

Materials and Methods

- A total of 180 colour broiler birds (Nandanam Broiler-II) were randomly divided into four replicates of 45 birds (40 hen + 5 cock) each and reared in deep litter system
- Hatching eggs were collected, fumigated and set from 25 to 72 weeks of age.
- Optimum breeder and incubation management conditions were followed.
- Unhatched eggs were broken out to get infertile and embryonic mortality data.
- The percent fertility, hatchability on total eggs set, on fertile eggs and embryonic mortality were worked out

Composition of basal diet

Feed Ingredients	Chick Mash	Grower Mash	Layer Mash
Maize	43	24	54
Cumbu	-	24	-
DORB	20	27	9
SBOM	15	5	14
SFOC EXT	11	11	8
Dry Fish	10	7	8
Mineral Mixture	1	1	2
Shell grit	-	-	4
DCP	-	1	1
TOTAL	100	100	100

Nutrient composition

Nutrient	Chick Mash	Grower Mash	Layer Mash
Calculated Values			
Crude Protein (%)	20.49	17.09	18.04
M.E K cal/kg	2700	2606	2706
Calcium (%)	1.17	1.14	3.02
Av.Phosphorous(%)	0.4	0.52	0.55
Lysine(%)	1.15	0.85	0.97
Methionine(%)	0.42	0.36	0.3

Mean (±S.E.) hatching performance of colour broiler breeders as influenced by parental age (25-72 weeks)

Age of the bird (wks)	No. of eggs set	Total chicks	Fertility %	Hatchability %		D/G %	D/S %	TEM %
				Total eggs	Fertile eggs			
25-28	1425	1045	91.90 ±1.27	73.49^{b} ±4.99	79.81^{b} ±4.50	7.20 ±2.77	11.21 ±2.26	18.41^{b} ±3.93
29-32	1013	797	93.17 ±1.34	78.77^{a} ±4.80	84.38^{a} ±4.01	8.93 ±2.09	5.48 ±2.14	14.40^{a} ±3.51
33-36	994	780	92.90 ±1.20	78.45^{a} ±1.37	84.48^{a} ±1.77	7.14 ±0.39	7.32 ±1.94	14.4^{a}6 ±1.74
37-40	731	564	89.45 ±1.95	75.69^{b} ±3.75	84.48^{a} ±2.81	6.04 ±0.85	7.73 ±1.81	13.77^{a} ±2.24
41-44	824	651	91.33 ±1.32	79.40^{a} ±2.60	86.95^{a} ±2.61	4.58 ±1.26	7.35 ±2.06	11.92^{a} ±2.40
45-48	727	588	91.53 ±0.58	80.90^{a} ±0.91	88.40^{a} ±1.28	4.43 ±0.88	6.20 ±0.55	10.63^{a} ±1.22
49-52	1045	789	85.24 ±3.42	72.92 ±4.66^{b}	85.37 ±2.87^{a}	3.97 ±0.37	8.35 ±2.21	12.32 ±2.27^{a}

Mean (±S.E.) hatching performance of colour broiler breeders as influenced by parental age (25-72 weeks)

Age of the bird (wks)	No. of eggs set	Total chicks	fertility %	Hatchability %		D/G %	D/S %	TEM %
				Total eggs	Fertile eggs			
53-56	1142	972	91.85 ±1.90	85.59^{a} ±2.54	93.16^{a} ±1.36	1.71 ±0.34	4.54 ±1.27	6.26^{a} ±1.23
57-60	991	836	91.05 ±1.15	84.74^{a} ±1.53	93.05^{a} ±0.57	1.95 ±0.45	4.37 ±0.45	6.32^{a} ±0.46
61-64	1045	884	91.61 ±0.21	84.87^{a} ±0.94	92.64^{a} ±0.96	2.70 ±0.68	4.05 ±0.21	6.74^{a} ±0.88
65-68	1012	747	84.94 ±0.58	73.72^{b} ±0.71	86.78^{a} ±0.38	4.46 ±0.35	6.76 ±0.44	11.23^{a} ±0.31
69-72	1130	780	87.95 ±1.09	69.91^{b} ±4.10	79.54^{b} ±4.84	5.53 ±2.36	12.51 ±3.19	18.04^{b} ±4.33
24-72	**12079**	**9433**	**78.20 ±0.39**	**86.59 ±0.37**	**90.24 ±0.28**	**12.04 ±0.35**	**4.89 ±0.26**	**7.16 ±0.29**

Results

•The overall mean per cent fertility, total hatchability, fertile hatchability and total embryonic mortality were 78.20±0.39, 86.59±0.37, 90.24±0.28 and 7.16±0.29 per cent respectively.

•Age of the bird exhibited a highly significant ($p<0.01$) influence on per cent fertility, fertile hatchability and total embryonic mortality and significant ($p<0.05$) influence on total hatchability.

•Increasing trend in per cent fertility was observed as the age of the bird advanced from 25 to 48 weeks and a dip during 49-52 weeks; then a second raise from 53 to 64 weeks, a second dip at 65-68 weeks; and then a third raise at 69-72 weeks of age.

Results

•Increasing trend in fertile hatchability with corresponding decrease in per cent total embryonic mortality were observed as the age of the bird advanced from 29 to 68 weeks except at initial (25-28 weeks) and end of production cycle (69-72 weeks of age).

•Increasing trend in per cent total hatchability was noticed as the age increased from 29-36; 41-48 weeks; 53-64 weeks with decreasing Trend during 25-28; 37-40; 49-52 and 65-72 weeks of age.

CONCLUSION

- Age of the bird exhibited a highly significant ($p<0.01$) influence on per cent fertility, fertile hatchability and total embryonic mortality and significant ($p<0.05$) influence on total hatchability.
- Increasing trend in per cent fertility, total hatchability,fertile hatchability with corresponding decrease in per cent total embryonic mortality were observed as the age of the bird advanced from 29 to 68 weeks except at initial (25-28 weeks) and end of production cycle (69-72 weeks of age).
- Hatching eggs should be collected from 29 weeks to 68 weeks of age of colour broiler breeders to obtain higher fertility and hatchability performance.

Thank you

