



Welcome



Influence of strain on carcass characteristics of Guinea Fowl at different ages

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Introduction



- ❖ Guinea fowl produces **premium nutritious meat with gamy flavor**, dark coloured, rich in vitamin and low in cholesterol.
- ❖ Recently, Guinea fowl production is finding its place in the poultry market due to the **demand for different type of meat** especially Guinea fowl meat by the health conscious consumers in India.
- ❖ The genetic constitution of bird as well as non-genetic **factors** such as age, nutrition, housing system, sex and environmental conditions were reported to have significant influence on body weight, dressing percentage, carcass composition and meat quality of poultry.
- ❖ Many reports indicate the effect of strain on live weight and carcass characteristics in chicken breeds.
- ❖ Limited reports in Guinea fowl

objective



To assess the effect of age and strain on the carcass characteristics of Guinea fowl.



Materials and Methods



- ❖ A total of 320 one day old Guinea fowl keets of Pearl and White strains belonging to a single hatch were randomly divided into two treatment groups (T1 and T2) with four replicates of 40 chicks each under intensive system of management and reared for 16 weeks.
- ❖ The standard feeding and watering (ad libitum) and other managemental practices were followed throughout the experimental period.
- ❖ A total of 144 birds comprising **twenty four birds from each strain per age group** were randomly selected at 12, 14 and 16 weeks of age and were subjected for carcass studies.

Pearl and White Guinea fowl





Composition of basal diet



S. No	Ingredients / Age (in weeks)	GF pre brooder	GF brooder	GF grower	GF breeder
		0-4	5-8	9-20	20+
1	Maize	44	40	39.5	41
2	Cumbu	10.75	12	15	14.5
3	DORB	-	17.5	21.25	9
4	Soya meal	36.25	21.5	8.5	11.5
5	SFOC	-	-	7	7
6	Dry fish	7.5	8	7	10
7	Min. mix	0.5	0.5	1	1.5
8	Shell grit	-	-	-	5
9	DCP	1	0.5	0.75	0.5
	Total	100	100	100	100



Nutrient composition



	Nutrients	GF pre brooder	GF brooder	GF grower	GF breeder
1	Cr. Protein %	24.55	20.53	17.08	18.11
2	M.E K cal / kg	2852	2801	2748	2657
3	ME: C.P ratio	116	136	161	147
4	Cr. Fibre	4.33	7.05	9.09	6.70
5	Ether extract	3.52	3.29	3.16	3.34
6	Calcium	1.18	1.08	1.18	3.41
7	Av.Phosphorus	0.52	0.45	0.51	0.54
8	Ca: Phos ratio	2.26	2.38	2.32	6.27
9	Lysine	1.45	1.15	0.86	0.99
10	Methionine	0.42	0.38	0.35	0.37
11	Linoleic acid	0.98	0.96	0.97	0.94



Materials and Methods



•Data on pre slaughter live weight, percent yield of Newyork dressed weight, eviscerated weight, giblet weight, dressing percentage and cut up parts viz., breast, back, thigh, drumstick, wing and neck were determined.

The recorded data were analyzed statistically as per Snedecor and Cochran (1994). .



Guinea fowl meat





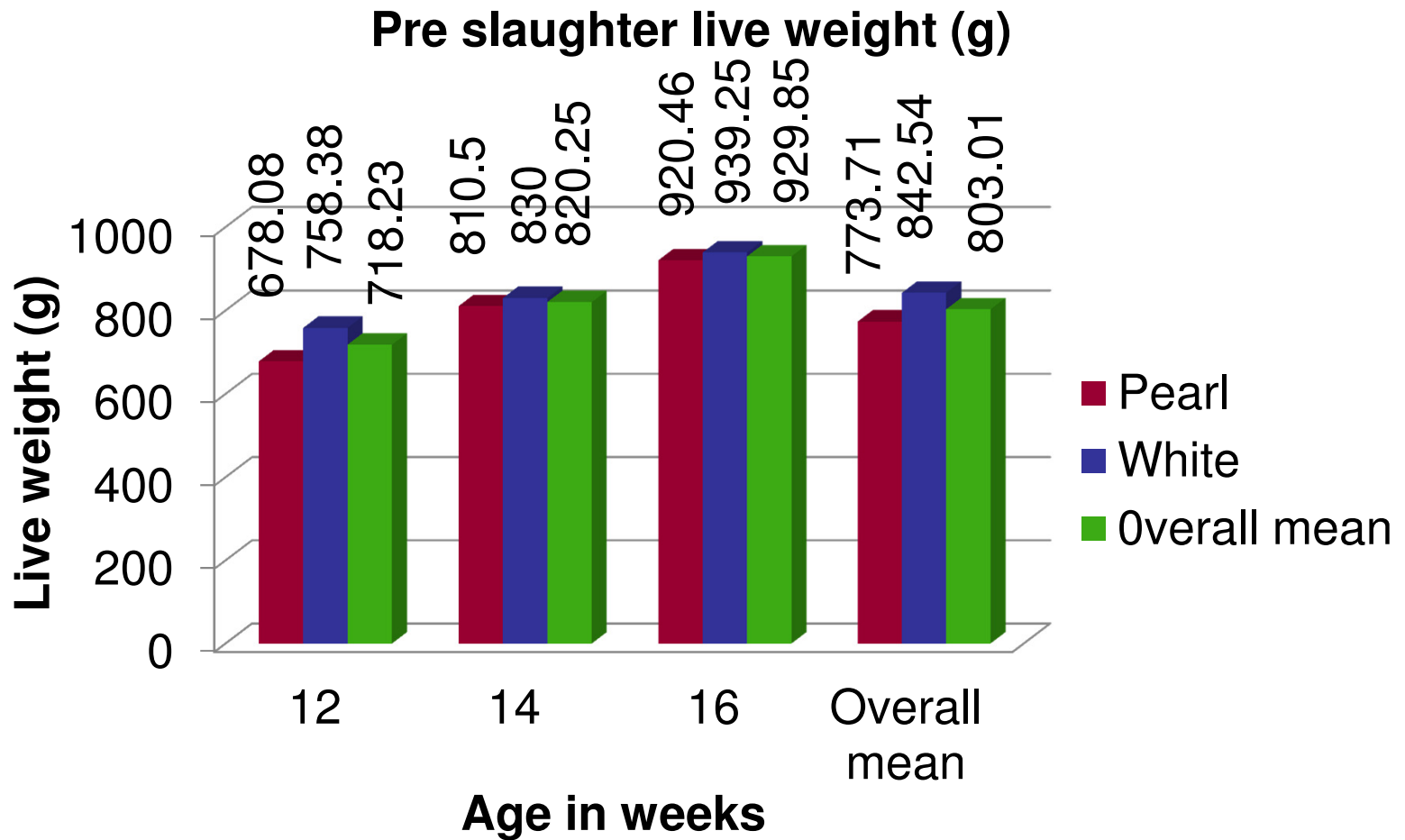
Guinea fowl cut parts



Influence of strain on carcass characteristics of Guinea Fowl at different ages

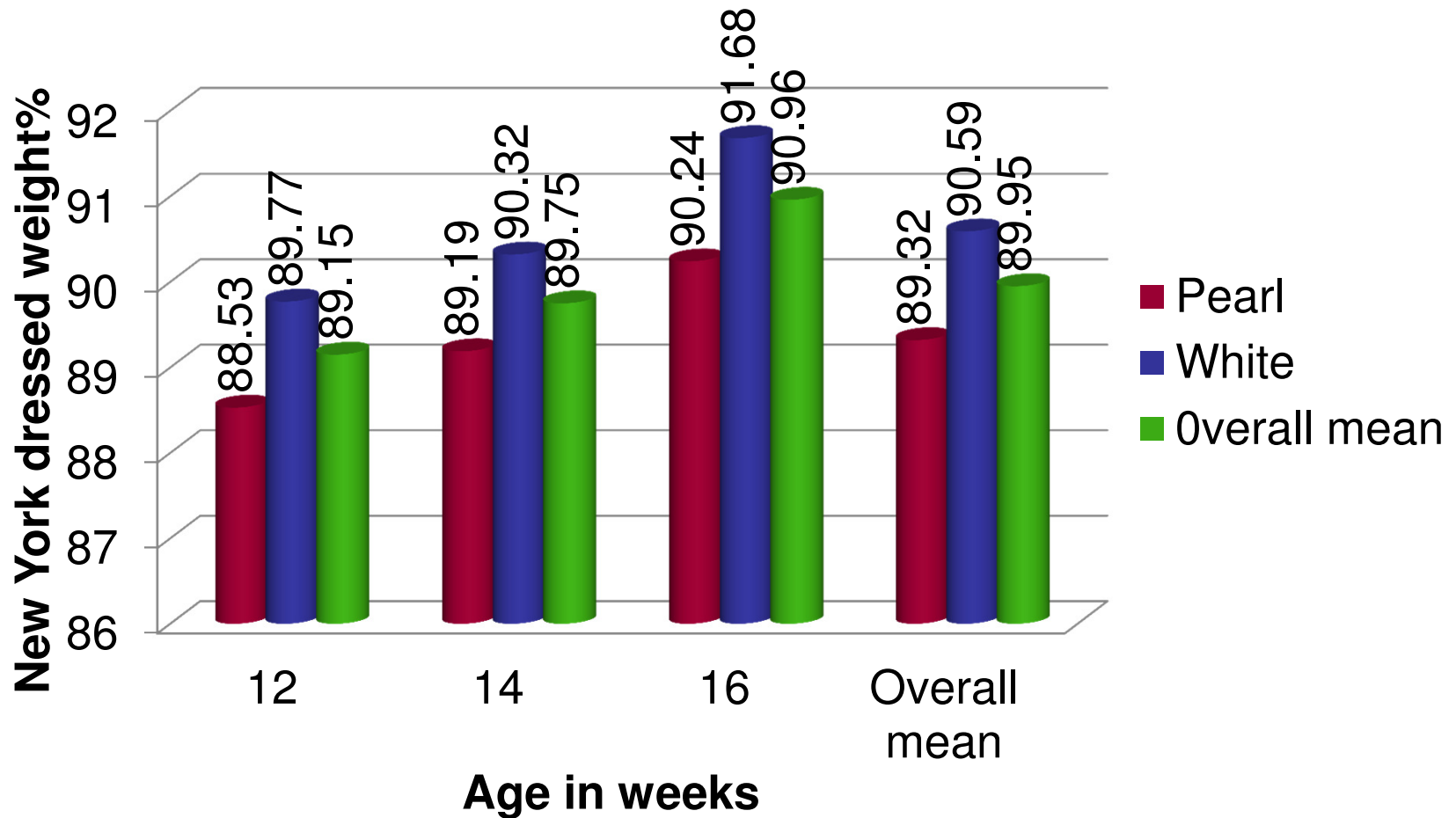
Parameter	Age in weeks		12	14	16	Overall mean
Pre slaughter live weight (g)	Age **		718.23 ^C ±12.88	820.25 ^B ±13.69	929.85 ^A ±11.82	803.01 ±15.94
	Strain**	Pearl	678.08 ^b ±17.89	810.50 ^b ±21.73	920.46 ^b ±16.73	773.71 ^b ±13.23
		White	758.38 ^a ±14.74	830.00 ^a ±16.91	939.25 ^a ±16.84	842.54 ^a ±12.76
New York dressed weight %	Age **		89.15 ^B ±0.40	89.75 ^B ±0.50	90.96 ^A ±0.20	89.95 ±0.23
	Strain**	Pearl	88.53 ^b ±0.60	89.19 ^b ±0.93	90.24 ^b ±0.25	89.32 ^b ±0.38
		White	89.77 ^a ±0.51	90.32 ^a ±0.36	91.68 ^a ±0.25	90.59 ^a ±0.24

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New York dressed weight%



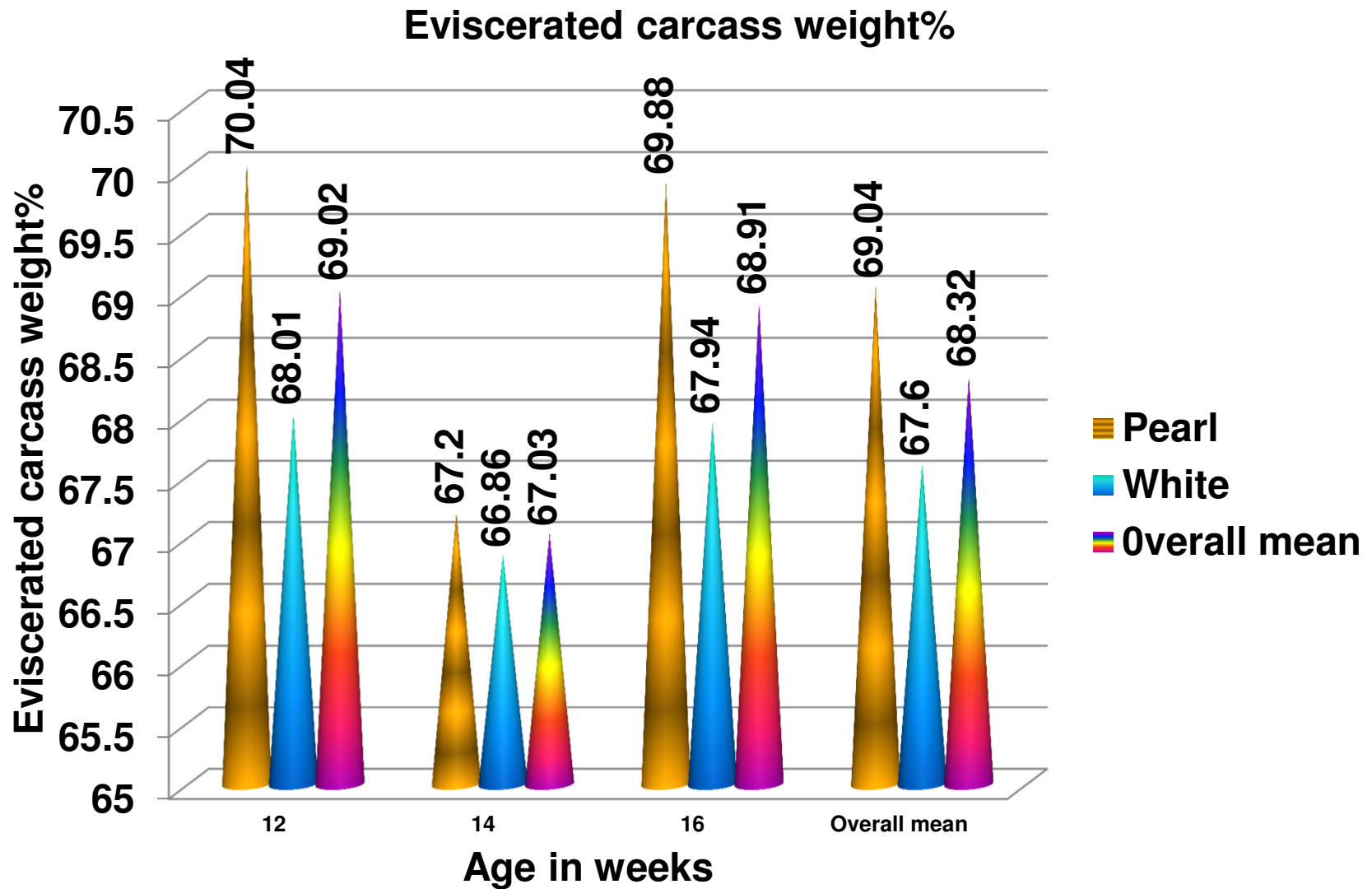


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Parameter	Age in weeks	12	14	16	Overall mean	
Eviscerated carcass weight %	Age **	69.02 ^A ±0.51	67.03 ^B ± 0.55	68.91 ^A ± 0.33	68.32 ±0.28	
	Strain **	Pearl	70.04 ^a ±0.55	67.20 ^a ±0.96	69.88 ^a ±0.47	69.04 ^a ±0.42
		White	68.01 ^b ±0.82	66.86 ^b ±0.57	67.94 ^b ±0.38	67.60 ^b ±0.36
Giblet weight %	Age **	5.27 ^A ±0.10	5.30 ^A ±0.11	4.65 ^B ±0.07	5.07 ±0.06	
	Strain NS	Pearl	5.39 ±0.15	5.26 ±0.16	4.55 ±0.09	5.07 ±0.09
		White	5.16 ±0.13	5.34 ±0.15	4.75 ±0.12	5.08 ±0.08

Influence of strain on carcass characteristics of Guinea Fowl at different ages



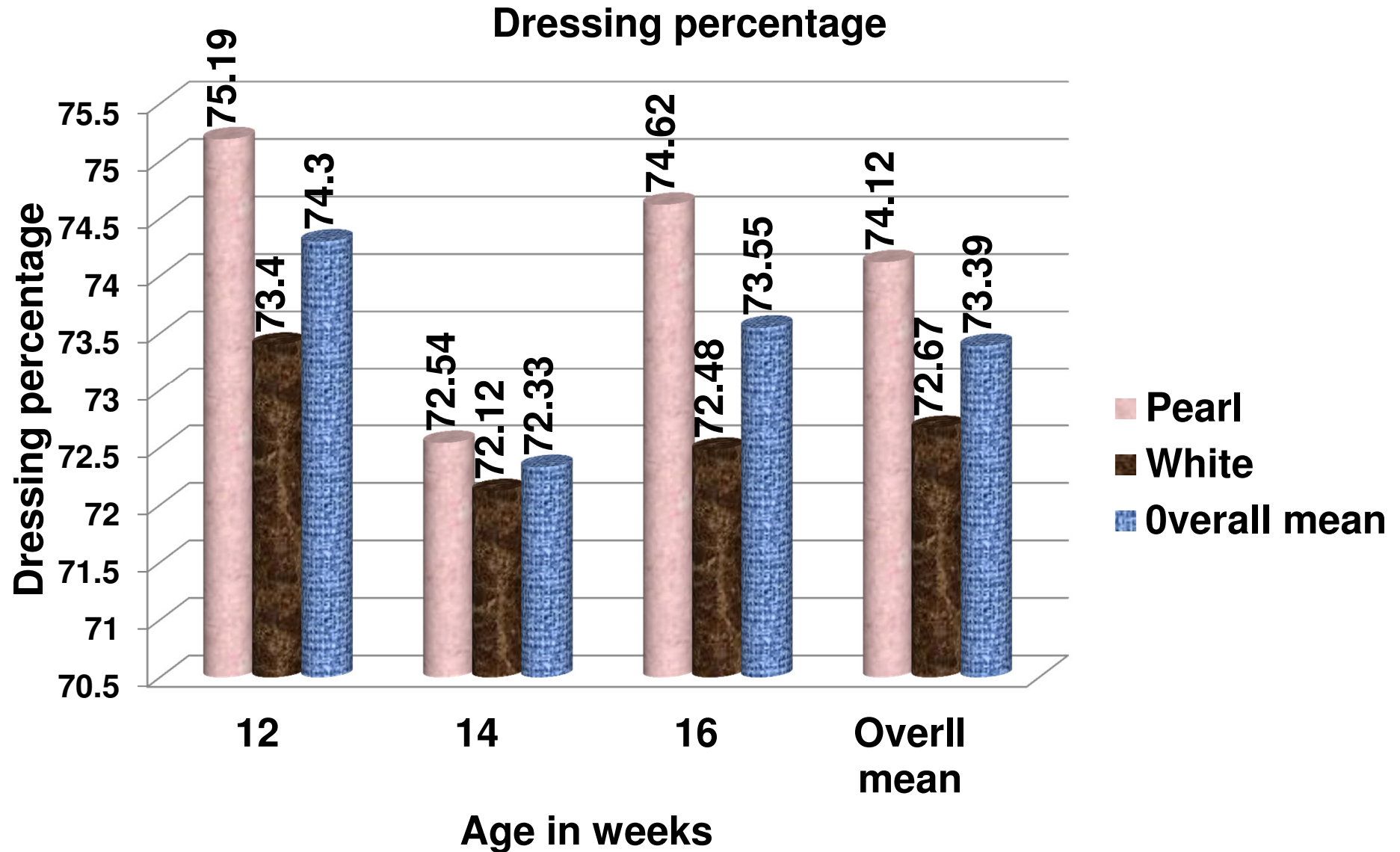


Influence of strain on carcass characteristics of Guinea Fowl at different ages



Parameter	Age in weeks	12	14	16	Overall mean	
Dressing percent age	Age**	74.30 ^A ±0.45	72.33 ^B ±0.53	73.55 ^{AB} ±0.34	73.39 ±0.26	
	Strain**	Pearl	75.19 ^a ±0.46	72.54 ^a ±0.92	74.62 ^a ±0.48	74.12 ^a ±0.40
		White	73.40 ^b ±0.74	72.12 ^b ±0.53	72.48 ^b ±0.39	72.67 ^b ±0.33
Cutup parts						
Breast weight %	Age ^{NS}	27.55 ±0.22	27.02 ±0.21	27.57 ±0.20	27.38 ±0.12	
	Strain ^{NS}	Pearl	26.96 ±0.35	27.13 ±0.25	27.52 ±0.28	27.20 ±0.17
		White	28.14 ±0.22	26.90 ±0.36	27.62 ±0.28	27.56 ±0.18

Influence of strain on carcass characteristics of Guinea Fowl at different ages





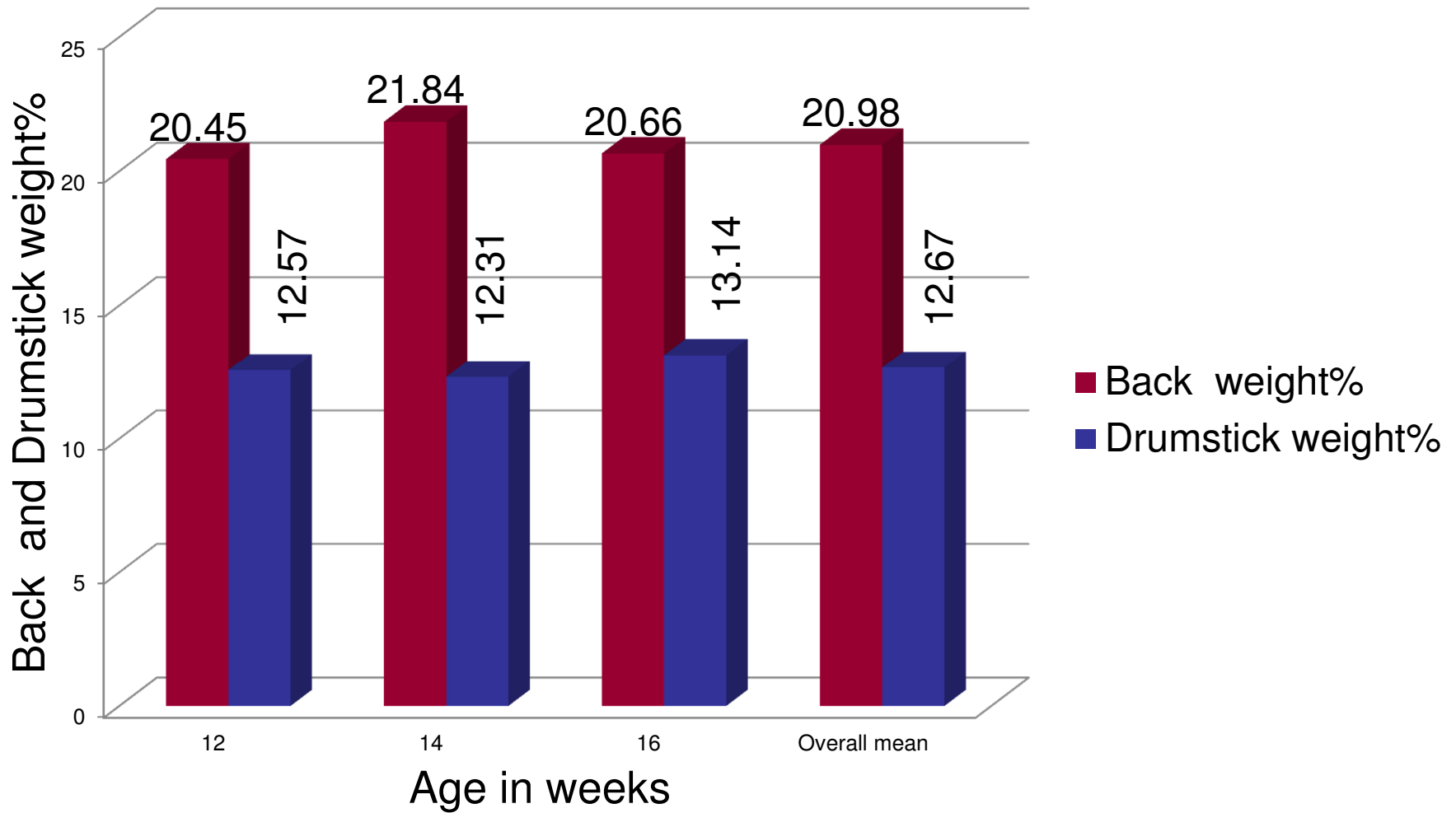
Influence of strain on carcass characteristics of Guinea Fowl at different ages



Parameter	Age in weeks	12	14	16	Overall mean	
Back weight %	Age**	20.45 ^B ±0.25	21.84 ^A ±0.17	20.66 ^B ±0.25	20.98±0.14	
	Strain ^{NS}	Pearl	21.03±0.39	22.19±0.18	20.19±0.25	21.14±0.19
		White	19.88±0.28	21.48±0.28	21.13±0.43	20.83±0.21
Thigh weight %	Age ^{NS}	17.35±0.14	17.61±0.23	17.65±0.15	17.54±0.10	
	Strain ^{NS}	Pearl	17.18±0.23	17.24±0.24	17.73±0.14	17.38±0.12
		White	17.52±0.14	17.99±0.39	17.58±0.28	17.70±0.17
Drumstick weight %	Age**	12.57 ^B ±0.10	12.31 ^B ±0.12	13.14 ^A ±0.09	12.67±0.07	
	Strain ^{NS}	Pearl	12.82±0.16	12.22±0.15	13.04±0.10	12.69±0.09
		White	12.32±0.09	12.41±0.19	13.24±0.16	12.66±0.10

Influence of strain on carcass characteristics of Guinea Fowl at different ages

Back and Drumstick weight%





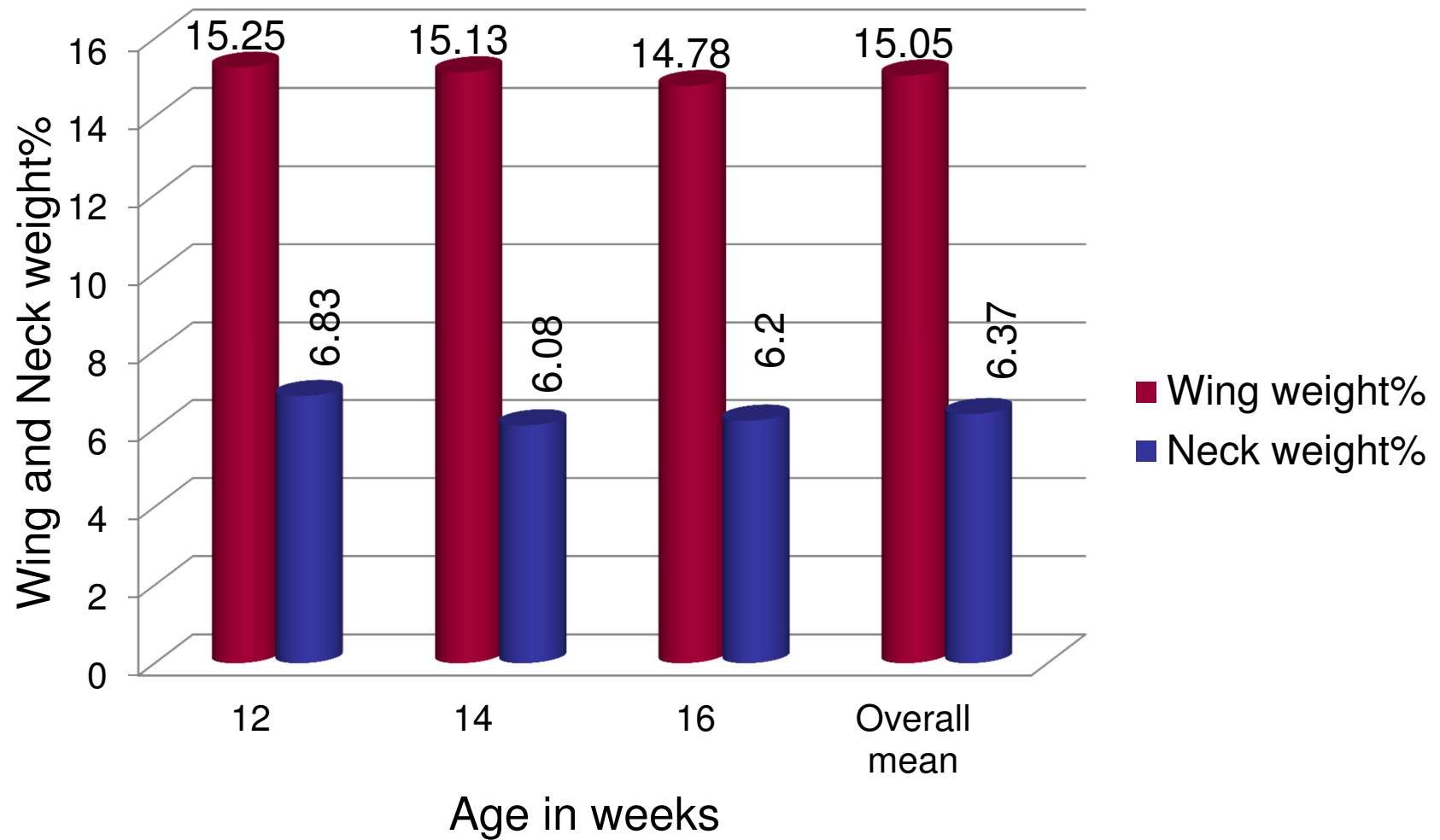
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Parameter	Age in weeks	12	14	16	Overall mean	
Wing weight %	Age *	15.25 ^A ±0.14	15.13 ^{AB} ± 0.14	14.78 ^B ±0.11	15.05±0.08	
	Strain NS	Pearl	15.26±0.19	14.99±0.13	15.03±0.15	15.09±0.09
		White	15.23±0.20	15.28±0.25	14.53±0.17	15.02±0.13
Neck weight %	Age**	6.83 ^A ±0.13	6.08 ^B ±0.12	6.20 ^B ±0.10	6.37±0.07	
	Strain *	Pearl	6.76 ^b ±0.18	6.23 ^a ±0.14	6.50 ^a ±0.09	6.50 ^a ±0.08
		White	6.90 ^a ±0.19	5.94 ^b ±0.20	5.90 ^b ±0.16	6.25 ^b ±0.12

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Wing and Neck weight%





Results



- **The mean per cent New York dressed weight and eviscerated weight showed significant ($p < 0.01$) increase at 16th week of age.**
- **Pearl strain had significantly ($p < 0.01$) higher per cent eviscerated carcass weight and dressing percentage at 12, 14 and 16 WOA.**
- **White strain showed significantly ($p < 0.01$) higher mean pre slaughter live weight and mean per cent New York dressed weight.**



Results



Among cut up parts

- Pearl strain showed significantly ($p < 0.01$) higher mean per cent neck weight at 14th and 16th week.
- The other cut up part yields viz., breast, back, thigh, drumstick and wing did not differ statistically between strains.

▪



conclusion



- **The optimum age for marketing Guinea fowl is between 14 to 16 weeks**
- **White Guinea fowl can be reared under intensive system for meat production.**
- **Genetic improvement of Pearl strain should be made to obtain higher body weight at market age.**



Thank you

