Table (3). Effect of royal jelly (RJ), gibberellic acid (GA3), and testosterone (TS) treatments on some productive performance traits of Matrouh hens from 24-48 weeks of age

Items	Treatments				
	Control	**200 µg RJ /Kg BW**	**200 µg GA3 /Kg BW**	**200 µg TS /Kg BW**	**Sig.**
Initial body weight (g)	915.63±18.30	943.75±14.85	940.63±18.17	946.88±15.87	NS
Final body weight (g)	1370.77±22.34^{b}	1424.29±22.19^{ab}	1443.34±17.89^{a}	1464.14±22.65^{a}	*
Change in body weight (g)	465.00±21.77	492.15±21.89	506.30±19.94	510.69±23.74	NS
Daily feed intake (g)	118.87±0.59^{c}	121.07±0.18^{a}	120.32±0.28^{ab}	119.05±0.54^{bc}	**
Egg number	121.63±4.08^{c}	145.50±4.10^{ab}	149.13±2.85^{a}	130.69±3.28^{b}	**
Egg production (%)	41.89±1.87^{b}	46.76±1.31^{b}	52.13±2.19^{a}	43.45±1.22^{b}	**
Egg weight (g)	47.42±0.18^{b}	47.79±0.26^{ab}	47.99±0.14^{a}	47.78±0.18^{ab}	*
Egg mass (g /hen)	19.90±0.95^{b}	22.37±0.68^{b}	25.03±1.09^{a}	20.77±0.61^{b}	*
Feed conversion ratio (g. / hen/ day)	6.18±0.30^{a}	5.49±0.17^{bc}	4.94±0.20^{c}	5.81±0.18^{ab}	**
Total mortality (%)	18.75	12.50	15.63	9.48	NS

a, b….. Means are bearing different letters in each rows, differ significant (P< 0.05).
NS = Not significant, * = P< 0.05.

Table (4). Effect of royal jelly (RJ), gibberellic acid (GA3), and testosterone (TS) treatments on some egg quality measurement of Matrouh hens at 24-48 weeks of age

Items	Treatments				
	Control	**200 µg RJ /Kg BW**	**200 µg GA3 /Kg BW**	**200 µg TS /Kg BW**	**Sig.**
Egg quality measurement					
Egg weight, g	47.00±1.31	49.67±1.34	50.20±1.55	47.74±1.61	**NS**
Egg shape index, %	74.26±1.7^{b}	77.31±0.48^{ab}	78.14±0.53^{a}	76.69±0.88^{ab}	**
Egg yolk index, %	39.64±1.04	41.62±0.83	42.37±0.87	41.59±0.58	**NS**
Egg albumin index,%	76.07±1.02^{b}	73.80±1.26^{b}	77.13±1.60^{b}	80.78±2.63^{a}	*
Haugh unit (Score)	82.62±1.63	88.21±1.66	86.83±2.31	87.52±2.33	**NS**
Shell thickness (mm)	0.30±0.004	0.31±0.004	0.31±0.005	0.30±0.005	**NS**
Egg components (%)					
Yolk weight	32.51±0.61	30.54±0.7	31.33±0.71	30.71±0.51	**NS**
Albumin weight	54.71±0.77^{b}	57.22±0.82^{a}	56.71±0.81^{ab}	57.71±0.64^{a}	*
Shell weight	12.47±0.48	12.43±0.38	11.91±0.27	11.7±0.35	**NS**

a, b….. Means are bearing different letters in each rows, differ significant (P< 0.05).
NS = Not significant, * = P< 0.05.

Table 5: Effect of royal jelly, gibberellic acid and testosterone treatments on economic efficiency of egg production of laying Matrouh hens strains, during the experimental period 24-48 weeks of age

Items	Control	RJ	GA3	TS	Sig. test
Egg number	121.63	145.50	149.13	130.69	
Price/egg (LE)	1.25	1.25	1.25	1.25	
Total revenue hen (LE)	163.36	186.41	181.88	152.03	
Total feed intake/ hen(kg)	20.00	20.21	20.34	19.97	
Price/Kg feed (LE)	4.000	4.000	4.000	4.000	
Total feed cost/ hen (LE)	80.00	80.85	81.36	79.88	
Fixed hen (LE)	6.25	3.95	6.65	3.00	
Total cost hen (LE)	86.25	84.80	88.00	82.88	
Net revenue/hen (LE)	69.15^{b}	93.87^{b}	101.61^{a}	77.11^{b}	*
Economic efficiency (EEf)	83.44^{b}	106.67^{b}	119.82^{a}	89.41^{b}	*
Relative E.Ef. (%)	107.16	143.60	127.85	100.00	

a, b….. Means are bearing different letters in each rows, differ significant ($P< 0.05$).

* = $P< 0.05$.