J. Agric. Sci. Mansoura Univ., 30 (9): 5103 - 5114, 2005

THE EFFECT OF USING DATE PALM WASTE (MID RIB AND PINNE OF DATE PALM) AS INGREDIENTS IN BROILER DIETS

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ABSTRACT

An experiment was conducted to determine the effect of addition date palm waste (mid rib of date palm, MDP and pinnae of date palm, PDP) to broiler diets (starter/grower/ finisher or grower/ finisher or Finisher) on the productive performance, carcass characteristics and economical evaluation of broiler chicks. A total number of 480 one- week old male Hubbard broiler chicks were distributed equitably into 8 dietary treatments in 3 replicates of 20 birds each .Four experimental diets in each period (starting, growing and finishing) were formulated in which (control diet) was 0.0% date palm waste, in the other diets wheat bran WB , MDP and PDP were incorporated at level of 5% to obtain basal diet 1, basal diet 2 and basal diet 3, respectively. Control diet and basal diet 1were used in the whole experimental period (control and T1), while basal diet2 and basal diet 3 were used in whole experimental period (T2 and T5) or in growing/ finishing period (T3 and T6) or in finishing period (T4 and T7) respectively.

The results indicated that:

1- There were no significant differences in body weight, feed intake , feed conversion and mortality rate between chicks fed control diets, wheat bran diets (Basal 1), MDP diets (Basal 2) and PDP diets (Basal 3) in different growth periods.

2- Carcass characteristics indicated that added MDP in broiler chicks significantly decreased dressing % (T3) and breast % (T4), but drumstick% significantly increased (T2).

3- The results of chemical composition of white breast meat showed that, broiler chicks fed MDP (T3) or PDP (T7) gave significantly lower protein % compared with those fed control diets.

4- The results of economical evaluation showed that mid rib and pinnae of date palm could be included at 5 % in broiler diets and the best feeding cost per kg gain was recorded for broiler chicks fed pinnae of date palm (T5).

Keywords: Date palm, pinnaa of date palm, broiler diet.

INTRODUCTION

In recent years, considerable attention has been given to search for more available and cheaper feed ingredients particularly agricultural by-products for animal feeding. Furthermore, 21 million tons of agricultural crop residues are produced in Egypt annually (Deraz, 1996). However, only 4.0 to 4.3 million ton of the crop residues are used for feeding animals (El-Shinnawy, 1990; Hathout and El-Nouby, 1990 and Khorshed, 2000).

Therefore, conclusive research has been conducted to evaluate the effect of using some agricultural by products as untraditional feedstuffs on the performance of animals and poultry.

The main shortcoming of agriculture by- products as untraditional feedstuffs in poultry diets lies in high fiber content and their poor palatability. Moreover, fiber sources may contain phytic acid, which has been shown to reduce calcium, phosphorus and zinc availability to chicks (Lease and Williams, 1967 and lease, 1968). The fiber sources themselves may reduce

trace mineral availability by binding the mineral to fiber matrix (Ismail- Beigi *et al.*1977)

On the other hand Miller *et al.* (1979) found that various fractions isolated from wood hemicellulose extract, a chemically complex material high in phenolics, resulted in improvements in performance of chicks when incorporated into practical corn soybean meal diet. Moreover, Ricke et al (1982) concluded that the improvements due to addition of cell wall carbohydrates is coursed by change in a microbial

metabolism in the digestive tract rather than a change in post absorptive (tissue) metabolism. Also, the high fiber diets increased the digestive passage rate and increased bacterial synthesis of amino acids in the large intestine and caeca.(Parsons *et al.* 1983).Moreover, many successful trails by using some components of rice milling , wheat bran ,corn bran, soy bran, alfalfa meal, sawdust, prickley pears, oat hulls and date stone meal in broiler , layer, quail and ducklings diets (Sutton *et al.*, 1981; Thompson and Weber, 1981, Ricke *et al.*, 1982; Ghazalah., 1990; Attia, et al ., 1995; Jorgensen *et al.*, 1996; Ensaf El-full et al ., 2000; El-Nagmy *et al.*, 2001; and Abaza *et al* , 2004).

Wheat bran, is usually not included in appreciable quantities in the poultry diets. However. Lee *et al.*(1985) supplemented isonitrogenus diet with 5or 10% wheat bran to fed chickens from 3 to 28 day of age . they found that increasing amounts of wheat bran in the diet decreased feed intake and there was a significant interaction of bran with dietary salt or calcium. Wheat bran contains an active phytase in germinated grain, the enzyme may improve the utilization of phytase phosphorus in diets when fed to animals and chicks (Nelson, 1980; McGillivray, 1978.

It was generally known that date have a fundamental economic importance in many desert areas especially in sinai and El-Wadi El-Gedid governorate in Egypt, where inedible dates, date pits, pinnae of date palm and mid rib of date palm are not utilized for human consumption. However, several experiments by many investigators revealed that date stone meal can be included in broiler, layer, quail and duckling rations. (Zumbado *et al.*, 1987; Panigrahia and Powell., 1991; El-Bogdady *et al.*, 1995; Osman et al 1995; Soliman., 1996 and El-Nagmy *et al.*,2000).

No trail has been reported to use pinnae of date palm or mid rib of date palm as untraditional feed ingredients in poultry diets. So, the present investigation was undertaken to assess the effects of use pinnae of date palm and mid rib of date as untraditional feed ingredients in broiler diets.

MATERIALS AND METHODS

The present study was carried out at the Poultry Farm of the Poultry Production Department Faculty of Agriculture, Ain Shams University, Shoubra El-Kheima. The present study was designed to study the possibility for using pinnae of date palm (PDP) and mid rib of date palm (MDP) as untraditional feedstuffs in broiler diets. Such materials are produced in abundant quantities in El-Wadi El-Gedid Governorate.

Fifty Kilograms. from each crop-residue were sun dried until complete drying and fine ground to pass through a 1.0-mm screen.

Chemical analysis of PDP and MDP were carried out according to A.O.A.C (1980) and results are presented in (Table1).

Four experimental diets were formulated in which (control diet) was 0.0 % date palm waste, in the other diets wheat bran (WB), (MDP) and (PDP) were incorporated at level of 5% to obtain basal diet 1, basal diet 2 and basal diet 3 respectively. Starter, grower and finisher experimental diets (table2) were formulated to meet the nutrient requirements of the broiler chicks according to Egyptian Ministry of Agriculture decree (1996).

Table (1): Chemical composition percent of wheat bran, mid rib and pinnae of date palm on dry matter basis.

Items %	Wheat bran	Mid rib of date palm	Pinnae of date palm
Dry matter	88.17	88.10	93.70
Crude protein	15.21	2.69	5.85
Crude fiber	9.95	34.02	27.64
Ether extract	4 44	2.98	0.78
Nitrogen free extract	52.94	41.70	49.86
Ash	5.63	6.71	9.57
Organic matter	94.37	93 29	90.43
ME (Kcal/kg) *	1300	695	627

Each value represents pooled results of 3 samples per each tested ingredient.

*** The metabolizable energy (ME)for wheat bran was calculated according to feed composition tables for animal and poultry feedstuffs used in Egypt (2001)., and for MDP and PDP were calculated on the basis of its chemical composition according to Carpenter and Clegg (1956) .**

A total number of 480 day-old male commercial broiler chicks (Hubbard) were fed starter diet (22.61% CP and 2996 Kcal, ME/Kg) for the first week of age. AT the 7th day of age, chicks were wing-banded, weighed and randomly assigned to 8 dietary treatments of 60 chicks each, in three replicates (20 chicks per replicate). Chicks were randomly allocated into battery brooders with raised wire floors equipped with electric, thermostatically controlled heaters. Chicks were given starter diets

(1-2weeks), grower diets (3-4weeks) and finisher diets until the end of experimental period (7 weeks). The eight experimental dietary treatments were as follows:

treatments	Starter diet	Grower diet	Finisher diet
Control	Control diet	Control diet	Control diet
T1	WB - diet	WB - diet	WB - diet
T2	MDP - diet	MDP - diet	MDP - diet
T3	Control diet	MDP - diet	MDP - diet
T4	Control diet	Control diet	MDP - diet
T5	PDP - diet	PDP - diet	PDP - diet
T6	Control diet	PDP - diet	PDP - diet
T7	Control diet	Control-diet	PDP - diet

Feed and water were available (ad. Libitum) all time during experimental period. Body weights and feed consumption were weekly recorded and body weight gain and feed conversion were calculated.

Table (2). Composition and calculated analysis of the control and basal diets.

Ingredients	Starter diets		Grower diets		Finisher diets	
	Control	Basal 1*	Control	Basal 1*	Control	Basal 1*
Yellow corn	61	54	63	56	66	59
Soybean meal (44%)	27	27	27	27	27	27
Meat and bone meal (60%)	10	10	6	6	2	2
Wheat bran	-	5	-	5	-	5
Vegetable oil	0.93	2 93	2.04	4.04	2.42	4.42
Bone meal	0.45	0 45	1.30	1.30	1.9	1.9
Salt	0.30	0 30	0.30	0.30	0.30	0.30
Premix **	0.30	0 30	0.30	0.30	0 30	0.30
DL Methionine	0.02	0.02	0.06	0.06	0 08	0.08
Total	100	100	100	100	100	100
Calculated analysis						
Crude protein %	22.61	22.82	20.42	20.63	18.30	18.51
ME Kcal/ kg	2996	2932	3053	3054	3080	3081
Lysine%	1 29	1.31	1.16	1.17	1.03	1.03
Melthionine + cystine %	0.72	0.72	0.71	0.72	0.70	0 70
Calcium %	1.01	1.01	0.96	0.95	0.85	0 85
Available phosphors %	0 50	0.51	0.47	0.48	0 43	0 44
Price of ton feed L.E ***	1171	1191	1172	1192	1154	1174

* Starter, grower and finisher basal diets 2 & 3 are the same as (basal diet 1) but wheat bran substitution by mid rib of date palm (basal 2) or by pinnae of date palm (basal 3).

** Premix, vitamin and mineral mixture supplied each kg diet: Vit A 12000 IU, Vit D3 2500 IU, Vit E 12mg, Vit k3 3mg, Vit B1 1mg, Vit B2 6mg, Vit B6 3mg, Vit B12 13mg , Niacin 30mg, Pantotheric acid 12 mg , Folic acid 1mg, Biotin 75 mg, Choline chloride 600mg, Copper 5mg, Manganese 70mg, Zinc 50mg, Iron 60 mg, Selenium 0.1mg and cobalt 0.1mg .

*** The price of ton feed for basal diets which content mid rib or pinnae of date palm were 1176, 1177 and 1159 L.E for starter, grower and finisher diets respectively.

At the end of experiment (7 week of age) six chicks of each dietary treatment were randomly taken and slaughtered to complete bleeding, followed by plucking the feathers After the removal of head, viscera, shanks, spleen, gizzard, liver, heart and abdominal fat, the rest of the body was weighed to determine the dressed weight. Weights of different parts of carcass (breast, thigh, drumstick and back) were recorded to the nearest gm. Reprehensive samples of white breast meat were analyzed for moisture, ether extract , crude protein and ash content using standard methods of A.OA.C. (1990). Mortality rate was daily recorded and feed cost /Kg gain (L.E) was calculated.

The data was examined statistically using the computerized analysis of variance and Duncan's multiple range test procedures within the statistical analysis system, SAS (1996).

REUSLTS AND DISCUSSION

Results of proximate analysis (on dry weight basis) of MDP and PDP used in this research in comparison with WB was summarized in table (1). The experimental data showed that WB was the highest in crude protein

(15.21%), while MDP was the lowest (2.69%) and PDP was in the middle (5.85%). The crude protein content of PDP is comparable to that found in some grains commonly used in poultry diets (Salem and Hegazi 1971). Ether extract was relatively higher in WB (4.44%) and MDP (2.98%) than those found in PDP (0.78%). While, nitrogen free extract (NFE) was higher in WB (52.94%) than those found in PDP (49.86%) and MDP (41.70%). On the other hand, MDP contained the highest value in crude fiber (34.02%) followed by PDP (27.64%) and WB had the lowest (9.95%) .

This high fiber percentage may limit the diet inclusion level of date palm wastes, especially MDP in poultry diets (El Boushy and Van Der Poel 1994).

The metabolizable energy (ME) was calculated to be 695 and 627kcal/kg in MDP and PDP on the basis of its chemical composition according to Carpenter and Clegg (1956), respectively. These figures for ME were much lower than WB (1300 kcal/kg) according to Egyptian Ministry of Agriculture feed composition Tables (2001).

However, there are numerous inconsistent and conflicting findings concerning the chemical composition and metabolizable energy for date waste.

The metabolizable energy was calculated by Hermes and Al-Homidan (2004) to be 2512 and 1126 kcal/kg in Sukarry date waste and date pits meal. While Al-Yousef (1985) reported that ME of Khudri date was estimated to be 2409 kcal/kg. On the other hand, Radwan *et al.*, (1997) and El-Nagmy *et al.* (2001) calculated ME of date stone meal on the basis of its chemical composition and found it to be 1746 and 2757 kcal ME/kg, respectively.

Productive Performance.

Growth performance of broiler chicks fed experimental diets (starter, grower and finisher) of control; WB, MDP and PDP in different periods are shown in Table 3. It is clear that initial live body weight at 7 days of age did not differ among the experimental groups and the overall mean being 103.39. Chicks fed experimental diets during hall experimental period (1-7 weeks of age) reflect that the lowest value in body weight were for chicks fed diets containing MDP (T2) followed by that fed control diet while chicks fed diets containing PDP (T5) were the highest; differences among treatments were not significant. It was obvious from Table 3 that no significant differences in body weight were detected among the control diet, WB, MDP, PDP in different treatments.

The results of feed intake showed that birds fed the experimental diets containing PDP (T5, T6 and T7) had the lowest feed intake being 4.5%, 6.0% and 5.7% lower than that of birds on control diet, respectively during the period from 1 to 7 weeks age; differences were statistically not significant. During the different experimental periods (1-2, 1-4 and 1-7 weeks of age) the birds fed different experimental diets went down and the differences in feed intake failed to be not significant.

However, birds fed control diets or diets containing MDP (T3) consumed more feed than the other dietary treatments.

Table (3): Effects of feeding different experimental diets on the growth performance of broiler chicks at different age intervals.

Treatment age wks	control	T1	T2	T3	T4	T5	T6	T7	SE	Significant Of differences
Body weight (gm)										
1	108.7	106.0	104.3	100.0	101.3	102.7	102.3	101.0	1.99	NS
2	258.3	248.0	249.0	235.3	240.3	246.7	239.7	234.7	5.68	NS
4	886.7	879.3	900.3	897.0	885.7	889.7	834.0	840.0	21.72	NS
7	1887.3	1917.3	1873.7	1927.0	1921.7	1956.0	1917.3	1903.7	29.05	NS
Feed intake (gm)										
1-2	249.0	233.7	224.3	209.3	210.3	238.7	229.0	224.7	11.19	NS
1-4	1379.0	1368.7	1409.3	1425.0	1383.6	1382.7	1322.7	1333.0	46.54	NS
1-7	4064.3	3961.3	3909.3	4225.7	3967.3	3882.7	3822.7	3833.0	91.75	NS
Feed conversion										
1-2	1.66	1.65	1.55	1.55	1.51	1.66	1.67	1.68	0.058	NS
1-4	1.77	1.77	1.77	1.79	1.76	1.77	1.81	1.80	0.058	NS
1-7	2.29	2.19	2.21	2.32	2.18	2.10	2.11	2.13	0.059	NS

NS = not significant

The results of feed conversion (g feed/ g gain) showed the same trend since the differences were not significant during starting, starting/ growing, as well as during the whole experimental period and the birds fed PDP in experimental diets (T5, T6 and T7) were the best followed by those fed MDP (T4), while those fed control diets or PDP (T3) were the worst. These results are in agreement with those reported by many investigators (Yeong *et al.*, 1981; Sawaya *et al.*, 1984; Onwudikee, 1986 and El-Boushy and Van Der Poel 1994).

They concluded that high crude fiber percentage would limit the diet inclusion level of date waste, especially date pits to 10-15% in poultry diets. Moreover, the date wastes are poorly digested by poultry and the lower levels of critical essential amino acids in date waste are not enough to meeting the requirements for birds.

Similar observation were reported by other investigators. Osei and Amo(1987) found that no significant differences in final body weight of broilers by using 5.10 and 15% date meal in their diets. El-Nagmy (2001) reported that partial substitution of yellow corn either by date stone meal or prickley pear peels as sources of energy in quail dits had beneficial effect on the quails performance. Also, Holder (1980) and Lee *et al.*(1985) found that no significant difference in body weight gain and feed efficiency for chicks fed diets containing up to 7.5% clover or wheat bran up to 10% compared to the control.

On the other hand, these findings are in contrast with the results obtained by Radwan *et al.*, (1997), who reported that raising level of date stone meal in quail, diets up to 24% tended to improve body weight gain of grower quail.

Also Abaza, *et al.* (2004) reported that wheat bran can be used up to 35% in Matrouh laying hen diets with no detrimental effect could be found on feed conversion or egg quality.

Carcass characteristics.

Data for carcass characteristics and carcass parts of slaughtered broilers from different treatments are presented in Table 4. It is worth to note that broiler chicks fed MDP (T3) and WB (T1) reflected the lowest dressing percent compared with those fed control diets and the corresponding values were 57.65%, 58.84% and 62.04% respectively and in most cases differences were significant.

In addition, broiler chicks fed MDP (T4) gave the lowest breast% compared to those fed control diets being 28.26 % VS 31.18% respectively.

In contrast the drumstick% of broiler chicks fed MDP (T2) gave the highest percent, differences failed to be significant. These findings are in contrast with the results obtained by Ramdan et al, (1997) in grower chicks and layer, Hermes and Al-Homidan (2004) in layer, and Ramdan et al (1997) in growing quail, they reported that date waste (whole dates, date pits and date stone meal) could be replaced yellow corn without any adverse effect on productive performance, quality characteristics and carcass characteristics. In general, no significant differences were obtained among dietary treatments with regard to thigh %, wing % abdominal fat % and giblets % (Table 4).

Chemical composition of breast meat.

Data for chemical composition of white breast meat are summarized in Table 5. A significant ($P< 0.05$) decrease in fat content of white breast meat for broiler chicks fed WB (T1) compared to those fed control diets being 0.45% and 0.75% respectively. Also, broiler chicks fed MDP (T3) or fed PDP (T7) gave significantly lowest protein% compared with those fed control diets and the corresponding values were 21.48%, 21.95% and 23.86% respectively. These findings are in agreement with those of Patel *et al.* (1981) and McDougall *et al.* (1996).

They found that feeding wheat bran, cellulose or alfalfa meal resulted in significant reductions in hepatic lipid deposition, liver fat and serum cholesterol this may explain and support our findings concerning the reduction of breast fat content.

Economical evaluation.

Data for economical evaluation are summarized in (Table 6) .These results are based on recent prices of local market for feed ingredients. Because the calculated energy (ME- Kcal/ kg) value of wheat bran was much lower than yellow corn, it was necessary to increase the level of fat by about 2% in (basal 1) diets, to keep all diets iso- caloric (Table 2). The average cost/ton of final experimental diets (starter, grower and finisher) were : 1171,1172 and 1154 L.E for control diets, and 1191,1192 and 1174 L.E for basal 1 diets and 1176 , 1177 , and 1159 L.E for basal 2 or basal 3 diets respectively . Fat supplementation (20kg vegetable oil/ ton final diet) to(basal 1) diets raised the cost/ ton of final feed by about 20 L.E as compared to control diets.

Table (4). Effect of feeding different experimental diets on carcass traits (%) of broiler chicks

Treatment Criteria	control	T1	T2	T3	T4	T5	T6	T7	SE	Significant Of differences
Dressing %	62.04 BA	58.84 BC	60.39 BAC	57.65 C	62.63 A	61.68 BA	62.50 A	63.79 A	1 12	**
Breast %	31.18 CB	32.14 AB	30.21 BCD	30.16 BCD	28.26 D	33.34 A	29 01 CD	29.26 BCD	0.67	**
Thigh %	20.39	19.85	20.67	19.44	20.13	19.87	22.44	20.23	1 03	NS
Drumstick %	18.54 CB	18.95 CB	20.86 A	16.25 D	16.24 D	18.32 B	16.13 D	17.03 D	0.67	**
Back %	16.97 B	16.73 B	15.92 B	22.26 A	23.10 A	15.83 B	20.36 A	21.31 A	1.07	**
Wings %	12.43	12.52	12.54	11.87	12 25	12.91	12.11	12.15	0.453	NS
Abdominal fat %	1.20	1.03	1.70	1.36	1.24	1.07	1.41	1.47	0.176	NS
Giblets %	4.74	4.23	4.74	4.70	4.37	4.93	4.87	4.63	0.196	NS

Means in each row having different letter (s) are significantly different (P< 0.05) ; NS= not significant
*** P< 0.05; ** P< 0.01.**

Table (5) . Effect of feeding different experimental diets on chemical composition (%) of broiler chicks breast meat.

Treatment Criteria	control	T1	T2	T3	T4	T5	T6	T7	SE	Significant Of differences
Moisture	73.90	74.33	71 97	73.40	73 93	74.33	73.87	74.30	0.94	NS
Ether extract	0.75 A	0.45 B	0.63 BA	0.60 BA	0 64 BA	0.58 BA	0.57 BA	0.56 BA	0.07	*
Protein	23.86 BA	22.45 BDC	21.48 D	24.61 A	23 19 BDAC	23.35 BAC	23.14BDAC	21.95 DC	0.54	*
Ash	1.49	1 77	1.92	1.40	1.59	1.39	1.45	1.18	0.06	NS

Means in each row having different letter (s) are significantly different (P< 0.05); NS= not significant * P< 0.05.

It was clear that using WB. MDP except (T3) and PDP reduced relatively the feeding cost of broiler chickens compared with those fed control diets. The best feeding cost per kg gain was calculated for chicks fed PDP (92.1%) compared with those fed control diets (T5). Such improvement was due to the superior body weight and feed conversion for broiler chicks fed PDP in whole experimental periods.

Table (6). Effect of feeding different experimental diets on feed cost/ kg gain of broilers at marketing age.

Items	Control	T1	T2	T3	T4	T5	T6	T7
Feed cost/bird,(L.E*)								
2- week	0.292	0.278	0.264	0.245	0.246	0.281	0.268	0.263
4- week	1.616	1.630	1.659	1.676	1.621	1.627	1.555	1.562
7- week	4.715	4.675	4.557	4.922	4.616	4.525	4.453	4.460
Feed cost/kg gain L.E)								
2- week	1.95	1.96	1.83	1.81	1.77	1 95	1.95	1.97
4- week	2.08	2.11	2 08	2.10	2.07	2 07	2.13	2.11
7- week	2.65	2.58	2.58	2.69	2.54	2.44	2.45	2.74
Relative FC,(%)**	100	97.4	97.4	101.5	95.9	92.1	92.5	103.4

* Based upon the price of feed.
** Relative to the FC of the control at 7- week.

Health condition and mortality rate.

Under the condition of the present study all chicks appeared healthy and the total mortality rate was 2.5 % during the whole experimental period without any clear differences among treatments .

CONCLUSION

From the present results, it could be concluded that it is possible from the economic point of view to inclusion MDP or PDP by 5% level in broiler diets (starter, grower and finisher) .

Further studies must be carried on the use of such waste especially with PDP in order to discover more information about these material in feeding livestock's.

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تأثير أستخدام مخلفات النخيل (جريد وزعف النخيل) كخامات اعلاف فى علائق بدارى التسمين

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أجريت هذه التجربة للتعرف على تاثير أستخدام مخلفات النخيل (جريد النخيل وزعف النخيل) فى علائق بدارى التسمين(بادئ/ نامى/ ناهى او نامى/ ناهى) على الاداء الانتاجى وصفات الذبيحة والتقييم الاقتصادى لبدارى التسمين. أستخدم ٤٨٠ كتكوت هبرد عمر اسبوع فى التجربة وزعت الكتاكيت على ٨ معاملات غذائية بثلاثة مكررات وكل مكرر ٢٠ كتكوت. كونت أربعة علائق لكل فترة (بادئ ونامى وناهى) بحيث عليقة الكنترول احتوت على صفر% مخلفات نخيل بينما العلائق الاخرى ادخل فى مكونات العليقة الردة وجريد النخيل وزعف النخيل بمعدل٥% للحصول على عليقة قاعدية ١ وعليقة قاعدية ٢ وعليقة قاعدية ٣ على التوالى .

أستخدمت عليقة الكنترول والعليقة القاعدية طوال الفترة التجريبية (كنترول ومعاملة رقم ١) بينما عليقة قاعدية ٢ وعليقة قاعدية ٣ أستخدموا طوال الفترة التجريبية(معاملة رقم ٢ و ٥) أو فترة نامى وناهى (معاملة رقم ٣ و ٦) أو فترة الناهى(معاملة رقم ٤ و ٧) على التوالى.

أوضحت النتائج ما يلى :

١- لا يوجد فروق معنوية فى وزن الجسم واستهلاك العلف والاستفادة من الغذاء ومعدلات النفوق بين كتاكيت التسمين المغذاه على علائق الكنترول وعلائق الردة (عليقة قاعدية١) وعلائق جريد النخيل (عليقة قاعدية٢) وعلائق زعف النخيل (عليقة قاعدية٣) فى مختلف فترات النمو.

٢- صفات الذبيحة أوضحت النتائج أن أستخدام جريد النخيل فى تغذية بدارى التسمين يخفض معنويا نسبة التصافى (معاملة رقم٣) ونسبة الصدر (معاملة رقم٤) ويزيد معنويا % للساق (معاملة رقم ٢).

٣- التركيب الكيميائى للحم الصدر أوضحت النتائج ان أستخدام جريد النخيل (معاملة رقم ٣) او زعف النخيل (معاملة رقم ٧) فى تغذية بدارى التسمين يخفض معنويا % للبروتين فى لحم الصدر مقارنة بالكنترول .

٤- نتائج التقييم الاقتصادى أوضحت انه يمكن أستخدام جريد النخيل وزعف النخيل بمعدل ٥% فى علائق بدارى التسمين وافضل تكلفة غذائية لكل كيلو جرام نمو حسب لبدارى التسمين المغذاه على زعف النخيل (معاملة رقم ٥) .