AN ECONOMICAL STUDY TO MEASUREMENT OF MARKETING EFFICIENCY IN CALF FATTENING FIELDS IN NINEVEH GOVERNORATE(2018)

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ABSTRACT

This study was aimed at assessing marketing efficiency in the main sites of meat production of calf fattening fields in the private sector due to the importance of meat, especially red meat, which has essential nutrient for human body growth and high commodity prices depending on the measurement indicators used to suit the nature of the research conducted in calves fattening production fields in Gogjali region- Nineveh (2018). The basic source data of the study is obtained from sources on the ongoing ground- marketing questionnaire of three levels, the producer, the wholesaler, the retailer and two fields groups of caste random sample. The first group included (100) fields with imported calves class. The second included (51) fields with local calves class. Whereas, according to the production and marketing costs indicator, the average of marketing efficiency (ME_1) of marketed meat in both groups of claves fattening fields amounted (92.47, 93.39%) respectively for a kilogram which is a sign of high production costs and, according to the marketing margins indicator, the average of marketing efficiency (ME_2) of marketed meat in both groups of claves fattening fields amounted (86.89,79.13 %) for per kg which is a sign of high marketing margins. Thus the study concluded a high value of marketing efficiency using the first scale with the fattening period time for both groups while marketing efficiency by using the second scale was characterized by the gradual decline in the imported fattening fields and a gradual rise in the local fattening fields. The study recommends supporting production inputs (fodder, treatment), unifying markets and limiting the importation of red meat importation in order to obtain a good production and currency policy by which the production costs could be reduced to the minimum .

Key word : Marketing efficiency , calf fattening fields, Cost, Returns.

مجلة العلوم الزراعية العراقية -2020 :51 (4):1128-1138 **عبد الله والطائي**

دراسة اقتصادية لتقدير الكفاءة التسويقية لحقول تسمين عجول اللحم في محافظة نينوى 2018

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المستخلص

لأهمية اللحوم ومنها الحمراء لما تحتويه من عناصر غذائية ضرورية لديمومه نمو جسم الانسان، وارتفاع اسعار هذه السلعة الاساسية في سلة الغذاء للفرد العراقي، جاءت دوافع الدراسة الهادف الى تقدير الكفاءة التسويقية في المواقع الرئيسة لانتاج اللحوم المتمثلة بحقول تسمين العجول في القطاع الخاص وبالاعتماد على مؤشرات القياس المتبعة التي تتناسب وطبيعة البحث التي اجريت في حقول تسمين العجول في منطقة كوكجلي بمحافظة نينوى للعام الانتاجي 2018 ، وتم الحصول على البيانات الاولية الاساسية من مصادرها الميدانية بعمل استمارة استبيان للمستويات التسويقية الثلاث في المسلك التسويقي وهم المنتج وتاجر الجملة وتاجر التجزئة ولعينة عشوائية طبقية تضمنت مجموعتين من الحقول الاولى بلغت (100) حقل لعجول الصنف المستورد والثانية (51) حقل لعجول الصنف المحلي، وبلغت متوسط الكفاءة التسويقية ME_1 حسب مؤشر التكاليف الانتاجية والتسويقية للكغم الواحد من اللحم المسوق في حقول تسمين عجول المجموعتين بنحو(92.47 ,93.39)% على التوالي دلالة على ارتفاع التكاليف الانتاجية ، فيما بلغت متوسط الكفاءة التسويقية ME_2 حسب مؤشر الهوامش التسويقية للكغم الواحد من اللحم المسوق في حقول تسمين المجموعتين بنحو (86.89,79.13)% دلالة ارتفاع الهوامش التسويقية، واستنتج الدراسة ارتفاع قيمة الكفاءة التسويقية باستخدام المقياس الاول مع طول فترة التسمين لكلا المجموعتين من الحقول، فيما تميزت الكفاءة التسويقية حسب المقياس الثاني بالانخفاض التدريجي في حقول تسمين عجول الصنف المستورد والارتفاع غير التدريجي في حقول تسمين عجول الصنف المحلي، وتوصي الدراسة بدعم عناصر الانتاج (اعلاف، علاجات) وتوحيد الاسواق والحد من استيراد اللحوم الحمراء بغية وضع سياسة انتاجية وسعرية تساهم في خفض التكاليف الانتاجية المؤثرة في مستوى الكفاءة التسويقية.

كلمات مفتاحية: كفاءة التسويق، حقول تسمين العجل، التكلفة والعوائد.

***Received:24/8/2019, Accepted:26/12/2019**

INTRODUCTION

Small producers sector is generally the main source for producing meat in Iraq. This widespread vital sector is the biggest in Nineveh especially Gogjali region because it contains a good number of specialised calves breeding and fattening fields. Despite the increasing production tried by the owners of these fields, made these owners face difficulties to obtain fodders which are expensive, have poor vaccines, veterinary services, and treatments that are imported and controlled by the private sector, made the economic costs increase. At the same time, being the consumer has poor information concerning the price of a good in the wholesale market made the value of the marketing margin high between the product price and the consumer. Thus, the study aims at assessing the market efficiency by using two scales. The first scale uses production marketing cost indicator and the second one uses marketing margins for per kg of marketed meat in both imported and local calves fattening in the study area. The problem of the study lies in the high production costs and the high marketing margins. Consequently, it adversely affected marketing efficiency. The importance of this study lies in being one of the economic studies, which are very few, that deals with marketing efficiency through livestock especially in calves fattening fields that have essential nutrient for human body growth and have a positive position towards local consumers' tastes in Iraq, and considering the study area one of the important commodity production centres that have many fields compared with other Iraqi areas.

Research hypotheses

1- There is a decrease in the marketing efficiency of calves breeding and fattening fields of the study sample.

2- According to age group and fattening period, there is a difference in the value of marketing efficiency between the imported calves fattening fields group and the local calves fattening fields group.

3- For both groups of the study sample, the value of marketing efficiency differs according to marketing efficiency indicator.

This study are aims at assessing and measuring the marketing efficiency depending on two scales for both groups. The first scale depends on the marketing production costs indicator and the second one is the marketing margins. To ensure the accuracy and the consistency of the results and their conformity with the research hypotheses, each group was divided into three age groups according to calf primary age and each primary age was divided into three periods depending on the fattening day spent during the study.

MATERIALS AND METHODS

The study used two techniques of analysis. The first technique is the descriptive analytical technique based on concepts of economic theory and relevant previous theoretical studies. The second one is a quantitative analytical technique based on the standard statistical technique in analysing and assessing the results depending on marketing production costs indicator and marketing margins indicator for assessing marketing efficiency.The study depended on basic data drawn from field trips and periodic follow up of calves breeding and fattening fields in Gogjali region – Nineveh governorate 2018 production year, and of a total sample amounted about (151) fattening fields divided into two groups; the first group included (100) imported calves fattening fields. The second one included (51) local calves fattening fields.

Marketing efficiency measuring

Efficiency is generally defined as the relationship between the amount of limited inputs used to maintain a certain level of output or to achieve a certain amount of outputs with minimum input (13). The concept of marketing efficiency was defined by a large number of researchers; some defined it as: Marketing efficiency is the process of accomplishing marketing activities with the greatest efficiency or to obtain the best marketing quality at low cost (8) or it is the ratio between the outputs and inputs of marketing activity (1). One of the most important forms of improving marketing efficiency is either through increasing outputs with fixed inputs or by increasing outputs at a greater rate than increasing inputs or fixed outputs with reducing inputs and finally reducing outputs at a low rate than reducing inputs (6). Thus, the study of marketing efficiency is important because achieving it is

relevant to good quality and high production which drives down the unit-costs of production and in turn affects the efficiency measurement (12). The marketing efficiency can be divided into the operational efficiency which assumes that the basic nature of outputs for goods and services remain unchanged and to price efficiency which is relevant to the improvement of sales and purchasing processes (4). There are several indicators and methods for measuring marketing efficiency. Two measures were adopted in this study. The first is the marketing efficiency measurement according to production and marketing costs indicator as to the following formula: (3)(18)(21)(23).

$$\mathbf{ME_1 = 100 - \left[\left(\frac{MC}{MC+PC} \right) x100 \right]}$$

Where ME_1 represents Marketing Efficiency according to the production costs (PC) and Marketing Costs (MC).

Marketing Costs mean the costs spent on the required marketing services to deliver goods the way the consumer's desire (24), which means that all the costs that are spent on the product from production point up to the final sale (5). Marketing costs are included in marketing margins given that marketing margin equals marketing costs ± profits and losses (20). The following mathematical formulas are required to calculate the average marketing costs for each stage of the product at the farm up to the final consumer:

1- Average marketing costs between the two stages; the producer and the wholesaler which are borne by the producer = average marketing costs borne by the producer (D) / average quantities of a sold commodity (kg meat)

2- The average marketing costs between the wholesaler and retailer stages which are borne by the wholesaler = Average (M) which are borne by the wholesaler (D) / average quantities of the sold commodity (kg meat)

3- The average marketing costs between the retailer and consumer stages borne by the retailer = average (M) borne by the retailer (D) / average quantities of the sold commodity (kg meat).

The cost of production means the necessary total costs to produce one unit of commodity (kg meat), and divided into (fixed production costs and variable production costs), and fixed production costs mean those costs that do not change by volume production changing or the volume of production, the second measure, is the measurement of marketing efficiency according to marketing margins indicator as to the following formula:(16)

$$\mathbf{ME_2 = 100 - \left[\left(\frac{MM}{MM+PC} \right) x100 \right]}$$

Where ME_2 represents the second measure to assess the marketing efficiency according to marketing margins (MM), and (PC) represents production costs. The marketing margin represents the difference between the sale price (the price of the farm) and the purchase price (retail price) (22). According to marketing margin, in absolute terms, marketing margin is represented as a monetary unit and as the percentage form of absolute marketing margin in relative to the sale price (9). To assess different stages of marketing and the absolute marketing margins, the following formulas are used in the research sample:

1- absolute marketing margin between the wholesale price and the price of the product = wholesale price - the price of the product at the field door

2- absolute marketing margin between retailer price and wholesaler price = retailer price – wholesaler price

3- absolute marketing margin between retailer price and producer price = retailer price – producer price (10) (11).

To identify and determine the most important marketing stage that identifies a kilogram of marketed meat price, and how this influence marketing efficiency value, and to calculate marketing stage share of the final consumer spending (Dinar) or what is the so-called relative importance of marketing stage. In the light of the above, see the following formulas:(7)(19).

1- Producer share of consumer spending dinar

$$\frac{(production\ price\ at\ the\ field\ door\ D\ /kg\ meat)}{retailer\ price\ D\ /kg\ meat} \times 100$$

2- wholesaler share of consumer spending dinar

$$\frac{(wholesaler\ price - production\ price\ at\ the\ field\ door\ /kg\ meat)}{retailer\ price\ D\ /kg\ meat} \times 100$$

3- Retailer share of consumer spending dinar

$$\frac{(retailer\ price - production\ price\ at\ the\ field\ door\ /kg\ meat)}{retailer\ price\ D\ /kg\ meat} \times 100$$

Work processes

The study basically aims at identifying the degree and the capacity of the fields, in the study sample, to achieve the best marketing

quality with the least production and marketing costs, and with the least marketing margins since it is considered an axis for the comparative advantage of commodity price. The following standard models are used to assess marketing efficiency: The first measurement model description of marketing efficiency according to marketing and production costs indicator as in the following formula:

$$\mathbf{ME_1 = 100 - \left[\left(\frac{MC}{MC+PC} \right) x100 \right]}$$

As (ME_1) represents the first measurement of marketing efficiency according to marketing and production costs indicator, (MC) represents (Marketing Costs) and (PC) represents production costs.

The second measurement model description of marketing efficiency according to marketing margins indicator as in the following formula (16)(3)

$$\mathbf{ME_2 = 100 - \left[\left(\frac{MM}{Mm+PC} \right) x100 \right]}$$

As (ME_2) represents the second measurement of marketing efficiency according to marketing margins indicator, (MM) represents (Marketing Margins) and (PC) represents production costs. If the value of $ME_1 < 1$, this means there is a proportion of marketing inefficiency that must be dealt with by reducing the production and marketing costs of the productive unit (kg of meat). This requires to calculate marketing costs between the three marketing stages (producer and wholesaler, retailer and consumer) and to calculate each share of marketing stage of the total marketing costs. If the value of $ME_2 < 1$, this means there is a proportion of marketing inefficiency in supplying commodities to the consumer to satisfy his desires. This case must be dealt with by reducing marketing margin value which needs to estimate the purchase and sale price of the produced commodities that passed each stage, and to assess marketing efficiency, the previous mathematical formulas are used in calculating marketing Costs (MC), Production Costs (PC) and Marketing Margins (MM) according to two measurements.

References Review

The researcher did not find enough studies on marketing efficiency of calves fattening fields and to achieve the study goals, the following studies on the aspects of plants are chosen (18) "Measuring the marketing efficiency of the yellow corn or maize crop which amounted to about 35% in the (2001-2002) marketing season /Iraq". (17) study states as: "Study of marketing margin of marketing efficiency on protected agricultural crops (cucumber and pepper) in Tartus province / Syria" as the marketing efficiency by using production and marketing costs indicator of cucumber and pepper crops amounted to about (80.83 %, 44.08 %) and the marketing efficiency by using farmer share indicator amounted about (5.34 %, 9.71 %) of agricultural crops (cucumber and pepper) respectively. According to (7) study, "efficient marketing of table eggs, according to marketing costs indicator in the private sector in Baghdad governorate in 2015" amounted to about (89, 19%), and amounted to about (72,4%) according to marketing margins indicator. The study recommended supplying the means of transportation with the cooling system. (2) studied the "marketing efficiency of cows' milk which is produced locally in Abu Gharib – Baghdad, 2014". The marketing efficiency indicator amounted to about (69.68 % , 68.19 % , 65.96 %) respectively according to marketing and production costs indicator in three fields. The study concluded that the prices of raw materials, which are represented in the price of feed supplies and the herd were high. The study recommended the state to provide and support this sector with basic materials. (15) studied "assessment marketing efficiency of fruit crops in Baghdad governorate (2014-2015 season)" and the marketing efficiency examined fruit crops which amounted to about (64.47 %) by using production and marketing costs indicator and amounted about (40.66%) by using marketing margins, and by using total production value measurement, it amounted about (48.5 %). Thus the study concluded that there is an increase in intermediaries' shares at a comparable level to producers' shares in consumers' spending (dinar). So, (14) presented "an economical study to assess efficiency and items of marketing margins of tomato crops in Al-Tajee region -2015". The study arrived at that the sample of marketing efficiency was low and amounted to about (32.54 %). At the same time.

RESULTS AND DISCUSSION

To calculate marketing efficiency in the fields, as a research sample, we should study and analyse production and marketing costs and how it is important to each stage of a kilogram of marketed meat passing from the field down to the consumer. First: assessment of marketing efficiency of imported calves fattening fields. According to the table (1), we can see that marketing costs value of producer, wholesaler and retailer is low, yet medium levels of marketing efficiency according to (ME_1) increase with the longest fattening period time because the proportion of production costs are higher than the proportion of marketing costs. Thus the value of denominator increases to numerator value as the following formula:

$$\mathbf{ME_1 = 100 - \left[\left(\frac{MC}{MC+PC} \right) x100 \right]}$$

(See the results of (ME_1) assessment in table 2). Also, as it is shown in table (1), a decrease in the production price at field and in wholesale market which accompanied with a decrease in retailer price resulting in a decrease in the producer's and retailer's share, (decrease of relative importance of producer and wholesaler), with the stability of retailer's price (10000) D/kg of marketed meat. Also, an increase happens in the value of marketing margin between the producer's and retailer's stages including wholesaler .

Assessment of the marketing efficiency of imported calves fattening fields according to study sample

A- results of marketing efficiency (ME_1) according to production and marketing costs.

Table 2 shows the increase of marketing efficiency value (ME_1) according to production and marketing costs indicator with the fattening period time within one age group. The least value of marketing efficiency (ME_1) amounted to about (89.247 %) in field No. 52 which indicates to a deviation amounted (10.753%) from optimal marketing efficiency. The maximum value of marketing efficiency (ME_1) amounted to about (95.681 %) in field (No.74) which indicates a deviation amounted about (4.319 %) from optimal marketing efficiency. The total average value (ME_1) of imported calves fattening fields amounted about (93.394%) which indicates a deviation amounted about (6.604%) from optimal marketing efficiency. There is an increase in the production marketing costs amounted about (6.604%) relevant to the final consumer and it is possible to reduce production marketing costs about (6.604%), therefore; MC for kg meat is reduced amounting to (6.604%) in the imported calves fattening fields.

B) Results of marketing efficiency (ME_2) according to marketing margins indicator.

Table (2) shows medium marketing efficiency value (ME_1) for field (28) about (64.62%) as minimum value, and for field (87) about (91.3%) as maximum value and for all fields amounted (79.11%) which indicates to (20.89%) proportion of marketing margin inefficiency. This means that there is an increase in the value of marketing margins amounting to about (20.89%) borne by the final consumer for buying a kilogram of marketed meat from imported calves fattening fields.

Table 1. results of analyzing marketing data of imported calves fattening fields in Gogjali (2018)

Marketing stage details		wholesaler − producer					retailer − wholesaler				retailer− producer					
primary age	Fattening Period day	Price 1 Product at field dinar	MC producer dinar	Product Price in Al Jamila market	PC producer dinar	relative importance product % 100×3/1	Price 2 Wholesaler dinar	MC Wholesaler dinar	MM wholeslae − product dinar	relative important wholesale product −2 100×3/1	Price 3 Retailer dinar	MC Retailer dinar	MM retailer – wholesale 2−3	Relative important retailer − wholesale −3 100×3/2	MM retailer – product 1−3	Relative important retailer − product −3 100×3/2
Less than 12 month	−150 180	8508	172	8680	7622	85.08	8900	220	392	3.92	10000	239	1100	11	1492	14.92
	−181 210	7769	176	7945	7145	77.69	8132	187	363	3.63	10000	204	1868	18.68	2231	22.31
	211+	7385	124	7509	6026	73.85	7643	134	258	2.58	10000	145	2357	23.57	2615	26.15
12 -24 month	−150 180	8693	191	8884	7544	86.93	9088	204	395	3.95	10000	222	912	9.12	1307	13.07
	−181 210	7995	150	8145	7174	79.95	8303	158	308	3.08	10000	172	1697	16.97	2005	20.05
	211+	7285	140	7425	6767	72.85	7577	152	292	2.92	10000	165	2423	24.23	2715	27.15
24 months and over	−150 180	8821	186	9007	8927	81.21	9214	207	393	3.93	10000	223	786	7.86	1179	11.79
	−181 210	7975	164	8139	8653	79.75	8314	175	339	3.39	10000	190	1686	16.86	2025	20.25
	−211 250	7926	158	8084	8692	79.26	8252	168	326	3.26	10000	182	1748	17.48	2074	20.74

The source based on the results of questionnaire data and on the previous mathematical formulas that already mentioned in the theoretical part of the research.

Table 2. shows the results of marketing efficiency assessment, ME1, according to production and marketing costs and shows the average of marketing efficiency ((ME2) according to marketing costs (MM) indicator for a kilogram of marketed meat of the imported calves fattening fields.

Field no	ME_1	ME_2	Field no	ME_1	ME_2	Field no	ME_1	ME_2
1.	91.151	83.53	35.	91.598	62.06	69.	93.435	76.28
2.	91.940	85.24	36.	93.971	70.29	70.	93.785	78.50
3.	92.152	82.92	37.	94.926	74.22	71.	94.042	80.20
4.	92.472	85.12	38.	93.620	69.53	72.	94.404	79.38
5.	93.005	80.72	39.	90.690	84.587	73.	94.498	79.66
6.	90.174	82.39	40.	90.823	83.95	74.	95.681	76.68
7.	91.650	84.51	41.	90.823	84.40	75.	92.337	69.00
8.	93.143	86.48	42.	91.852	84.77	76.	93.347	71.50
9.	92.011	83.90	43.	92.220	86.21	77.	92.789	71.40
10.	92.895	84.99	44.	93.614	85.94	78.	93.436	70.04
11.	91.141	83.13	45.	94.121	86.54	79.	94.213	73.57
12.	94.201	83.79	46.	93.750	80.70	80.	94.680	72.97
13.	92.363	83.43	47.	93.753	80.31	81.	94.753	70.77
14.	93.692	85.18	48.	94.230	79.52	82.	92.997	87.95
15.	91.466	78.49	49.	94.770	81.83	83.	92.843	85.40
16.	93.543	82.64	50.	95.102	81.80	84.	93995	81.11
17.	91.078	71.81	51.	94.284	81.60	85.	93.967	87.99
18.	90.705	67.59	52.	89.247	76.86	86.	94.0.48	88.61
19.	91.541	68.57	53.	91.997	74.30	87.	94.992	91.30
20.	90.143	71.78	54.	92.172	75.91	88.	93.588	78.46
21.	92.834	79.82	55.	92.920	77.41	89.	93.732	81.17
22.	93.217	80.23	56.	92.626	74.41	90.	94.083	81.69
23.	92.717	78.23	57.	92.896	76.63	91.	94.362	80.82
24.	93.464	79.89	58.	93.777	77.64	92.	94.482	82.12
25.	94.023	79.16	59.	93.757	79.93	93.	94.627	80.48
26.	94.557	81.91	60.	94.200	79.89	94.	94.802	81.00
27.	92.787	77.98	61.	94.291	79.22	95.	93.835	78.51
28.	91.854	64.62	62.	94.585	76.78	96.	93.912	79.33
29.	94.850	75.45	63.	94.615	76.76	97.	94.654	82.41
30.	93.296	68.90	64.	94.905	78.96	98.	94.670	81.00
31.	93.538	68.80	65.	91.123	70.58	99.	94.830	81.58
32.	93.755	69.09	66.	92.905	77.58	100.	94.710	81.33
33.	94.044	69.74	67.	93.419	73.55	Total Average	93.394	79.13
34.	94.544	71.04	68.	93.404	77.34			

The researcher depended on the results based on a questionnaire data and results obtained by using ME_1 and ME_2 measurement

Assessment of marketing efficiency of local calves fattening fields

Result in 3 shows that in spite of the fall in the of marketing costs levels of the producer, and the levels of wholesaler and retailer stage, a clear rise in the values of production costs resulting in a rise in the levels of marketing efficiency (ME_1) according to production and marketing costs. As it is described in table -5-, the fattening period for each group (ME_1) has the least average which amounted about (90.110%), and the total production costs amounted (8145) dinar, and the total marketing costs amounted (8931) D/Kg for marketed meat. As for age groups level, marketing costs concerning(ME_1) amounted to about (93.957) as maximum average for the third period of fattening fields within third group age whereas medium production costs amounted (1.224(D/Kg for produced meat as it is shown in the following Table 6. And as shown in Table 4 , in spite of the marketing margin value reduction between producer and wholesaler stage, however; the fluctuation of marketing margin value between wholesaler and retailer, and between producer and retailer stage fluctuated the marketing efficiency value (ME_2) , and generally, according to marketing margins (ME_2) levels the fattening period time increases. Also, as it is shown in Table 7, the fattening period time of first age group amounted about (83.86%) as minimum average, and marketing margin is (1534) dinar as an average which then increased to about (88.85%) as maximum average, and marketing margin is about (1279) dinar as an average of the second fattening period within the third age group (24-36 month) in the local calves fattening fields group.

Table 3. Assessment relevant to local calves fattening fields in Gogjali region (2018 production year)

Marketing stage details		wholesaler– producer					retailer – wholesaler				retailer – producer					
Primary age	Fattening Period day	Price 1 product at field door dinar	MC Product dinar	Product price At Jamila market dinar	PC Producer dinar	Relative importance% 100×3/1	Price 2 Wholesaler dinar	MC Wholesaler dinar	MM wholesaler – producer dinar	Relative importance Wholesale product –2 100×3/1	Price 3 Retailer dinar	MC retailer dinar	MM retailer – wholesale 2–3	Relative importance retailer – wholesale 100×3/2–3	MM retailer – producer 1–3	Relative importance retailer – producer–3 100×3/2
12–6	–150 180	8521	218	8739	8136	85.12	9020	281	499	4.99	10000	306	980	9.8	1479	14.79
	–181 210	8466	156	8622	8022	84.66	8872	250	406	4.06	10000	275	1128	11.28	1534	15.34
	211+	8874	158	9032	7515	88.74	9233	201	359	3.59	10000	219	767	7.67	1126	11.26
24–12	–150 180	8506	227	8733	8680	85.06	8996	263	490	4.90	10000	286	1004	10.04	1494	14.94
	–181 210	8701	199	8900	7928	87.01	9125	225	424	4.24	10000	245	875	8.75	1299	12.99
	211+	8661	186	8847	9047	86.61	9049	202	388	3.88	10000	220	951	9.51	1339	13.39
36–24	–150 180	8501	234	8735	8699	85.01	8982	247	481	4.81	10000	269	1018	10.18	1499	14.99
	–181 210	8721	202	8923	10224	87.21	9183	260	462	4.62	10000	281	817	8.17	1279	12.79
	–211 250	8561	186	8747	9802	85.61	8965	218	404	4.04	10000	222	1035	10.35	1439	14.39

source depended on the results of questionnaire data and on the previous mathematical formulas that already mentioned in the theoretical part of the research.

Marketing efficiency assessment of local calves fattening fields according to study sample: A- results of marketing efficiency (ME_1) according to production and marketing costs. Result Table 5 shows the rise of marketing efficiency, depending on (ME_1) measurement, relevant to fattening period time and animal age progress up to 36 month, showing about (90.119%) as minimum average for field (1) and then it increased about (95.485%) as maximum average for field(50), and the total average of local fattening fields amounted about (92.475%) which is a sign of (7.525%) proportion of marketing inefficiency. That is to say, there is an increase of production and marketing costs about (7.526%). As a result, according to study sample, the final consumer bears this increase of a kilogram of marketed meat in the local calves fattening fields.

B- results of marketing efficiency (ME_2) according to marketing margins indicator. Result Table 4 shows the fluctuation of marketing efficiency levels in the second scale of fattening period time and animal age progress up to 36 month. The least average amounted about (81.25%) in field (11) and in field (47) amounted about (92.25%). The total average amounted (85.89%) which indicates marketing inefficiency in (ME_2) scale amounting about (14.11%) and the marketing margins value shows an increase of (14.11) proportion. As a result, according to study sample, the final consumer bears this increase of a kilogram of marketed meat in the local calves fattening fields.

Table 4. Marketing efficiency (ME1) using Production marketing costs and the results of marketing efficiency assessment in (ME2) scale by using marketing margins indicator.

Field no	ME_1	ME_2	Field no	ME_1	ME_2	Field no	ME_1	ME_2
1.	90.119	86.80	18	93.059	86.52	35.	92.280	88.22
2.	90.797	84.02	19.	93.601	87.88	36.	92.817	88.98
3.	90.427	84.49	20.	93.254	87.52	37.	95.068	85.58
4.	91.854	84.47	21.	93.179	87.23	38.	94.058	86.16
5.	91.701	83.37	22.	90.574	84.90	39.	94.670	86.34
6.	92.054	86.08	23.	91.001	83.41	40.	92.017	85.63
7.	90.129	81.92	24.	91.874	87.82	41.	90.215	82.13
8.	91.105	81.35	25.	92.474	84.75	42.	92.688	86.16
9.	91.510	84.36	26.	93.044	85.76	43.	92.120	86.71
10.	91.551	82.70	27.	90.842	83.97	44.	92.834	87.07
11.	91.341	81.25	28.	91.335	83.97	45.	92.530	87.02
12.	92.360	85.30	29.	91.736	86.85	46.	93.433	89.07
13.	92.244	81.74	30.	92.445	87.17	47.	94.098	92.25
14.	93.342	85.57	31.	92.230	86.59	48.	93.223	86.09
15.	92.100	86.37	32.	92.339	86.97	49.	93.708	87.06
16.	91.918	86.31	33.	93.187	84.91	50.	95.485	89.61
17.	92.611	86.83	34.	93.582	85.25	51.	93.415	83.51
					Total Average		92.475	8589

source depended on the results of questionnaire data and (ME_1) measurement results.

C- Result in Table 5 below shows the comparison between the results of marketing efficiency by using (ME_1 , ME_2) scales of both group categories (imported , local), so to achieve the objectives of this research and to find out whether the research hypotheses match the results of the estimation of the field data and to determine the best category of the primary age of the calves and the best period of fattening economically relevant to 2018 production year)

Table 5. shows the comparison between the results of marketing efficiency by using (ME_1 , ME_2)

Calves category efficiency		Imported category		Local category	
Primary age	Fattening period	ME_1%	ME_2%	ME_1%	ME_2%
12−6month	180−150	92.312	83.52	90.980	84.63
	210−181	92.460	76.08	91.737	83.36
	250−211	93.636	69.43	92.817	86.32
24−12 Month	180−150	92.405	85.19	91.794	85.32
	210−181	93.605	77.93	92.212	85.71
	250−211	93.650	71.32	93.778	87.05
24–36 months	180−150	93.807	87.26	91.760	85.15
	210−181	94.239	80.82	93.225	88.85
	250−211	94.435	80.69	93.957	86.70
average		93.394	79.13	92.475	85.89

Source: The researcher depended on tables (1, 2, 3 and 4) data

Result in Table 5 shows that the total average of marketing efficiency by using **ME_1** scale amounted about (92.475% , 93.394%) respectively indicating that imported calves fattening fields group are superior to local calves fattening fields group because the total average of marketing efficiency (MC) and production costs (PC) that amounted (7616 , 534) Dinar in imported calves fattening fields which is below the averages, and amounted (8783 , 696) Dinar in the local calves fattening fields. As for the total average of marketing efficiency by using **ME_2** scale amounted about (85.89% , 79.13%) respectively in the imported and local calves fattening fields due to the difference of the total average value of the absolute marketing margin which amounted (1387 , 1960) D/Kg for marketed meat ,in order, in the imported and local calves fattening fields. The table data also shows that the fattening fields of the third age group (24-36 month) has achieved the best levels of marketing efficiency in both scales (**ME_1**, **$ME_{2)}$** and both fattening fields (imported and local) according to the study sample, and the third fattening period within the third age group achieved the best marketing efficiency levels for both field groups by using (**ME_1**) scale. On the other hand, the imported calves fattening fields of the first fattening period within third age group, and the local calves fattening fields of second fattening period within second age group achieved the best marketing efficiency by using the second scale (**ME_2**) according to price margins in the study area. The forgoing illustrates the following conclusions: The increase of Marketing Efficiency levels (**ME_1**) , in both calves fattening fields due to the increase of production costs levels. The decrease and fluctuation of marketing efficiency levels (**ME_2**), in both calves fattening fields, due to the fluctuations of profit margin value between producer's and consumer's price, and the result of retailer's share ,especially during currency fluctuations, is at the expense of producer and the consumer. In that light, the researcher submits the following proposals: Supporting and providing economic resources used in fattening process like different types of fodders, veterinary drugs and vaccines, good calves , and encouraging to do more studies on meat production in order to obtain a good production and currency policy by which the production costs could be reduced to the minimum.All relevant authorities should take their responsibilities in developing marketing system and commodities especially meat by unifying markets and using controls on currency fluctuations to reduce the gap between producer's and consumer's price and to reduce the big marketing margin level for the sake of retailer.

Acknowledgment

The authors are very grateful to the University of Mosul / College of Agriculture and Forestry for their provided facilities, which helped to improve the quality of this work

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