



Kurdistan Regional Government
Ministry of planning
Kurdistan Region Statistics Office



Winter Planted Crops Survey in Kurdistan Region

Area - Yield - Production – Cost

2012-2013

Agriculture Department

May 2014

Kurdistan Regional Government
Ministry of Planning
Kurdistan Region Statistics Office

Winter Planted Crop Survey in Kurdistan Region Area-yield-production-expenditure 2012-2013

Agriculture Statistics Department
May 2014

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Introduction

A steady and improved agriculture is needed to establish a strong economic, for this, many countries, lay emphasis on this field and consider agriculture as a basis for economic. Thanks to god, we have a fertile land and water resources in Kurdistan region that give us opportunity to work widely in this field and provide our needs to foods. But lack of an efficient plan hampered the region to make progress in this field. To have a real picture of the situation, we need data and number to enable us to make an active plan through which we can make the progress in agriculture field.

Kurdistan region statistics office in cooperation with Ministry of agriculture handles this task by carrying out the agricultural surveys for different crops during the year. These surveys provide data base on which the annual plane can be made.

These surveys can highlight the agriculture weak points in districts, sub districts, and villages and also the problems that face the farmers during the planting time.

This report as a result of the winter crop survey 2012-2013, reveals some facts about the lands and planted areas. The result provides us with data on production, yield, and expenditure planted area per donum and makes a comparison between 2011 and 2012. The data has been provided in tables and figures to be friendly in use.

Advantage of the survey

□

- To estimate the yield per donnm of planted area.
- To reveal the total planted area
- To estimate the volume of winter production
- to estimate the expenditure of winter planted crops per donum
- To estimate the fertilized area
- To estimate the land areas that have been stricken by pests
- To give information about the topography of land used for winter crops
- To give information on the number of farmers who plant winter crops□

Objectives of the survey

The aim of the survey is to provide the agricultural relevant sides with information about the following indicators

- Agricultural special data at the geographical level of Kurdistan region.
- Difference between current growing season and the previous ones from the points of area, production, and expenditure.
- Agricultural trouble and natural events that face the farmers which ultimately make economic losses.

Methodology

The method of the survey

The survey was carried out in all villages over three governorates of Kurdistan region and Garmiyan administration. The teams of the survey directly visit the farmers to make interview with them during the field work to fill up the questionnaires. This process was done through the following stages:

First stage

To identify the frame, in which all villages were visited during a 45 day field work where the farmers or the village councils responded the questions.

Second stage

To select samples. This stage relies on the frame that has been identified in the first stage where two lands were selected in each village as sample. This stage was done during a 30 day field work.

The survey staff

The survey staff consisted of 33 field teams, 9 teams from Erbil, 13 teams from Sulaimaniya, 8 teams from Duhok , and 3 teams from Garmiyan administration. Each teams included 2 interviewers, one from statistical directorate and the other from agricultural directorate, also the coordinator committees, central and field supervisors in cooperation with Ministry of agriculture in Kurdistan region.

Content of the questionnaire

In order to collect information from farmers and preparing indicators in terms of expenditure, yield, and production, the questionnaire which was specialized to harvesting was designed accordingly and contains the following sections:

Questionnaire series: to account the questionnaires from one forward for each team

Team number: the number of the team is recorded

Name and code: in this section the name and code for governorate, district, sub-district, quarter, and village is recorded.

Land topography: number one for flat area, number two for hilly area and number three for mountainous area recorded in this section.

1. The second name of the farmer is written in section number one
2. The type of the production is written in section number two. Number one, two, three, four, and five is recorded for wheat, barley, chickpeas, lentil, and vegetable respectively.
3. In this section the planted area is recorded.
4. The cost for one donume is recorded in 1000 ID for seeds, seed planting, watering, and fertilizing.
5. In subsection 1.4, the plowing cost is recorded (renting animal, worker).
6. In subsection 2.4, the cost of seeds is recorded.
7. In subsection 3.4, the cost of seed planting is recorded for the workers who spread the seeds by hand or machinery.
8. In sub section 4.4, the cost of watering is recorded.
9. In sub section 5.4, the cost of fertilizing is recorded. The farmer is asked if the land has been fertilized or not. If the answer is "No", it goes for the next question. And if the answer is "Yes", then the type of fertilizer¹, the cost of fertilizer, and the rent of worker would be recorded. If Urea has been used twice then the cost would be calculated for two times. This process would be applied to other fertilizer too.

¹ fertilizer is a substance that added to the soil to amend the soil and get the best result from the land

There are two types of fertilizer

1. Organic fertilizer: an organic fertilizer derived from animal or plant wastes and has several types like:

- Animal fertilizer: it consists of solid and liquid wastes of animal in addition to herbal wastes.
- Green fertilizer: by this, we mean the crops that are planted and then added to the soil. Then it can be used as animal fertilizer after being decomposed.

2. Chemical fertilizer: there are two types of chemical fertilizer as following:

- Simple fertilizer (Urea): it is a chemical compound, mainly a nitrogen containing substance.
- Mixed fertilizer: it is most comprised of food components, and comprised of three main components (N.P.K).

10. Sub-section 6.4 is for seed cleaning by a red chemical substance. The material is mixed with seeds before being planted.

11. Sub-section 7.4 is for eradicating weeds. The cost for eradicating weed per donum and the cost of workers and watering is recorded in this section in ID.

12. Sub-section 8.4 is allocated to tackle the agricultural pests, if the land has been struck by agricultural pests.

13. In sub-section 9.4, the cost of harvesting is recorded. Harvesting may be done by hand or special machines. The cost for both will be summed as the total cost.

14. Sub-section 10.4 is allocated to cleaning the grains after harvesting. The cost of cleaning the grain per donum will be recorded in this section.

15. In sub-section 11.4, the cost of transportation means for transferring the production from one square meter is measured.

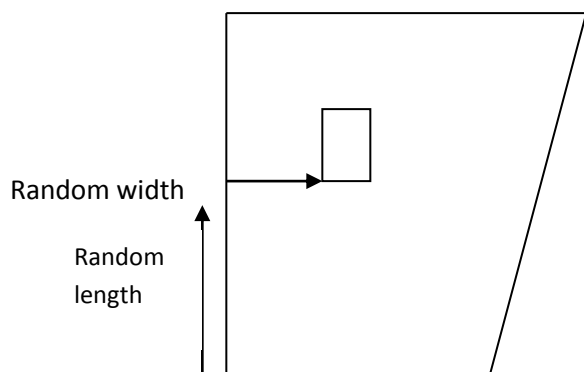
16. Sub-section 11.4 refers to "other" (buying food, cigarette, etc. for drivers and workers).

To specify the harvesting area

To specify the harvesting area, there is need for the following tools:

1. Meter
2. Wooden pillar
3. Field surveyor
4. Wooden hammer
5. Tent
6. Protractor to measure the angles
7. Rope
8. Sickle
9. Sieve

When team arrives in the field, the first step is to specify the area of the land that is going to be harvested. The team use wooden pillars to show the boundary of the land. The land area is a 20 square meter rectangle (5×4). Protractor is used to determine the right angle. The opposite angels should be equal. Then the angles would be marked by mental pillars, then the pillars tighten to each other by a rope to identify and show the borders of the land where the crops are going to be harvested.



The figure shows the way of specifying the boundary of harvested area



To weight the crops together with straw and forage:

After harvesting, with the help of farmer, the crops would be weighed together with straw and forage by using a scale and then it recorded in the questionnaire.

Net weight:

After weighting the crops (crops with straw and forage), the crops would be separated from straw and forage. For this purpose the crops would be poured on a cloth, then by a hammer and a sieve the crops separated from the straw and then the net crops would be weighted.

Selecting sample size

The farmers are divided by groups at the level of administrative unites. Then a significant rate of these farmers would be selected from each grope as well as the name of villages. Then 10% of villages in which the winter crops are planted would be selected in each district of Kurdistan region with two lands for each village. The following regular random way has been used to select the samples:

Winter crop planted area survey

	governorate	district	The number of villages in wheat sample	The number of villages in barley sample
1	Erbil	Khabat	6	4
2	Erbil	Erbil Dasht	10	9
3	Erbil	Rawandoz	5	4
4	Erbil	Soran	14	12
5	Erbil	Shaqlawa	17	12
6	Erbil	Choman	7	3
7	Erbil	Koya	15	12
8	Erbil	Mergasor	9	4
9	Erbil	Erbil center	8	7
10	Suleimaniya	Pshdar	21	10
11	Suleimaniya	Penjoin	11	13
12	Suleimaniya	Chamchamal	32	21
13	Suleimaniya	Darbandikhan	3	3
14	Suleimaniya	Dokan	16	12
15	Suleimaniya	Ranya	13	5
16	Suleimaniya	Said sadiqh	11	3
17	Suleimaniya	Sharbazher	13	13
18	Suleimaniya	Shaeazor	6	3
19	Suleimaniya	Qharadaqh	9	7
20	Suleimaniya	Mawat	6	4
21	Suleimaniya	Sleman center	20	12
22	Suleimaniya	Halabja	11	7
23	Duhok	Akre	20	13
24	Duhok	Amedi	7	7
25	Duhok	Bardarash	17	9
26	Duhok	Duhok center	7	4
27	Duhok	Semel	18	5
28	Duhok	Shekhan	17	4
29	Duhok	Zakho	11	3
30	Duhok	Kalar	14	13
31	Duhok	Kfri	11	11
32	Duhok	KHanaqhein	11	9

Data analyzing

After recording the questionnaires by the statistical directorates, it will pass the analyzing Process by applying Excel program. To achieve the differences and enlarge the sample size, the following rules are used:

1. Similarity ratio

$$\frac{PQ}{P'Q'} = \frac{QR}{Q'R'} = \frac{RP}{R'P'}$$

2. Percentage differences = $\frac{\text{Second no.} - \text{first no.}}{\text{Absolute (first no.)}} * 100$

The results of the survey

The winter crop survey for 2012-2013 provides us with data on each crop in term of area, yield, and production. The following are the results of the survey:□

- The highest rate of planted area and **wheat** production in Kurdistan region:

The highest rate of planted area is recorded for Duhok governorate, the land area of 710008 donums which makes 31% of total wheat planted area in Kurdistan region. The highest production rate belongs to the same governorate which reaches 384103.5 tons, that is 37% of total production. Wheat yield in Duhok governorate is 485.9 Kg/donum.

And for other governorates is as following:

In Erbil governorate, the wheat planted area covers a land area of 636828.5 donums, the yield is 486.4Kg/donum, and 317590.8 tons of production.

In Sulaimany center governorate, the wheat planted area is 640117 donum, the yield is 486.9Kg/donum, and 281178.2 tons of production.

In Grmiyan governorate, the land area is 272719 donum, the yield is 200.2Kg/donum, and 52991.8 tons of production.

- The highest and lowest rate of wheat production in Erbil governorate:

The highest rate of wheat production belongs to center district of Erbil which is 32%, the production is 101608.4 tons and yield of 589.6Kg/ donums. The lowest rate (0.3%) of wheat production belongs to Choman districts which reach 1055.7 tons, and its yield is 456.6Kg/ donum.

- The yield and production in other districts of Erbil governorate are as following:

Khabat district, the yield is approximately 543.9Kg/ donum, and production is 52307.2 tons.

Mergasor district, the yield is near to 499.1 Kg/ donum, and production is 2239 tons.

Soran district, the yield is near to 491.5 Kg/ donum, and production is 4250 tons.

Rawandoz district, the yield is near to 481.8 Kg/ donum, and production is 1536.2 tons.

Dashti Erbil district, the yield is near to 452.5Kg/ donum, and production is 79052 tons.

Koya district, the yield is near to 432.5Kg/ donum, and production is 43649.2 tons.

Shaqlawaw district, the yield is near to 430.5Kg/ donum, and production is 31839.2 tons.

□

- The highest and lowest rate of wheat production in Sulaimany center governorate:

The highest rate (17%) of wheat production belongs to Dokan district with production of 48534.6 tons and 513.2Kg/ donum of yield. The lowest rate (0.5%) of wheat production belongs to Mawat districts, where the production reaches 1341.6 tons and the yield is near to 528.1Kg/ donum.

Yield and production in other districts of Sulaimany center governorate are as following:

Penguin district, the yield is near to 635.2Kg/ donum, and production is 5566.9 tons.
Ranya district, the yield is near to 555.5Kg/ donum, and production is 19776.3 tons.
Said Sadiqq district, the yield is near to 534.4Kg/ donum, and production is 36541.2 tons.
Halabja district, the yield is near to 518.7Kg/ donum, and production is 27443.9 tons.
Chamchamal district, the yield is near to 280.3Kg/ donum, and production is 45659.5 tons.
Gharadagh district, the yield is near to 503.1Kg/ donum, and production is 7349 tons.
Peshdar district, the yield is near to 472.9Kg/ donum, and production is 18275.1 tons.
Sharbazher district, the yield is near to 463.7 Kg/ donum, and production is 1830.6 tons.
Darbandikhan district, the yield is near to 462.5 Kg/ donum, and production is 8090.1 tons.
Sulaimany center district, the yield is near to 448.9 Kg/ donum, and production is 38353.8 tons.
Sharazor district, the yield is near to 412.5 Kg/ donum, and production is 22415.7 tons.

- The highest and lowest rate of wheat production in Grmyan:

The highest rate of wheat production belongs to Khanaqhin district. In this district the rate production is 36%, its production is 19021.1 tons and its yield is near to 178.5 Kg/ donum. The lowest rate (32%) of wheat production belongs to Kefri districts, its production is 16899.1 tons and the yield is near to 173.2 Kg/ donum. The wheat yield in Kalar district is approximately 248.9 Kg/ donum that comprise the highest level of wheat yield for Garmyan with production of 17071.6 tons.

- The highest and lowest rate of wheat production in Duhok governorate:

The highest rate (31%) of wheat production belongs to Bardarash district with production of 120590.5 tons and its yield is near to 615.6 Kg/ donum. The lowest rate of wheat production belongs to Amedi districts. In this districts the production rate is near to 0.4%, the production is 1671.9 tons and the yield is near to 256.5 Kg/ donum which is the lowest level for yield in Duhok.

The yield and production for other Duhok governorate's districts are as following:

Shekhan district, the yield is near to 666.2Kg/ donum, and production is 111787 tons.
Duhok center district, the yield is near to 530.2 Kg/ donum, and production is 11663.9 tons.
Zakho district, the yield is near to 484.5 Kg/ donum, and production is 35961.5 tons.
Akre district, the yield is near to 435Kg/ donum, and production is 35239.4 tons.
Semel district, the yield is near to 413.3Kg/ donum, and production is 67189.4 tons.

- The highest rate of planted area and **barley** production in Kurdistan region

The highest rate of barley planted area is of Sulaymani governorate, the land area of 146413 donums that comprises 36% of total barley planted area in Kurdistan region. Barley production rate is 33% in Sulaymani which reaches 46198.9 tons and its yield is 374.9Kg/donum

For other governorates the figures are as following:

In Erbil governorate, the barley planted area covers a land area of 137140 donums, the yield is near to 432.3Kg/donum which has the highest level at the level of governorates with production of 57088.4 tons.

In Duhok governorate, the land area is 53126.5 donums and the yield is near to 395.3Kg/donum with production of 22574.7 tons.

In Garman, the land area is 72669 donums and the yield is near to 207Kg/donum with production of 14157.6 tons. □

- The highest and lowest rate of barley production in Erbil governorate:

The highest rate of barley production belongs to Dashti Erbil district which is near to 33%, its production is 18777.1 tons and its yield is near to 407.1Kg/ donum. The lowest rate of barley production belongs to Choman districts. In this districts the production rate is near to 0.3%, the production is 198.7 tons and the yield is near to 454.7Kg/ donum.

The yield production in other districts of Erbil governorate is as following:

Soran district, the yield is near to 500.4Kg/ donum, and production is 2035.4 tons.

Mergasor district, the yield is near to 488.3Kg/ donum, and production is 209.7 tons.

Koya district, the yield is near to 474.4 Kg/ donum, and production is 13769 tons.

Rawandoz district, the yield is near to 461.5Kg/ donum, and production is 697.5tons.

Erbil center district, the yield is near to 419.1Kg/ donum, and production is 15419.7 tons.

Khabat district, the yield is near to 412.5Kg/ donum, and production is 2563.7 tons.

Shaqalawa district, the yield is near to 272.9Kg/ donum, and production is 3427.5 tons.

□

- The highest and lowest rate of barley production in Sulaimany center governorate:

The highest rate of barley production belongs to Chamchamal which is near to 49%, its production is 22631.6 tons and its yield is near to 283.6Kg/ donum. The lowest rate of barley production belongs to Sharazor districts. In this districts the production rate is 0.7%, the production is 322 tons and the yield is near to 383.3Kg/ donum.

The yield and production for other districts of Sulaimany center governorate are as following:

Shar bazher district, the yield is near to 495.8Kg/ donum, and production is 2057.1 tons.

Gharadagh district, the yield is near to 483.3Kg/ donum, and production is 2588.8 tons.

Penjwin district, the yield is near to 476.5Kg/ donum, and production is 5502.6 tons.

Mawat district, the yield is near to 466.7Kg/ donum, and production is 927.6 tons.

Halabja district, the yield is near to 458.7Kg/ donum, and production is 1075.2 tons.

Darbandikhan district, the yield is near to 412.5Kg/ donum, and production is 1047.3 tons.

Ranya district, the yield is near to 312.5 Kg/ donum, and production is 637.2 tons.

Sulaimany center district, the yield is near to 335.4Kg/ donum, and production is 2878.7 tons.

Dokan district, the yield is near to 316.4Kg/ donum, and production is 3882.4 tons.

Saiid Sadiqq district, the yield is near to 281.3Kg/ donum, and production is 347.7 tons.

Peshdar district, the yield is near to 167.7Kg/ donum, and production is 2300.8 tons.

- The highest and lowest rate of barley production in Garmyan

The highest rate of barley production belongs to Kefri district which is near to 51%, its production is 7202 tons and its yield is near to 170.7 Kg/ donum. The lowest rate of barley production belongs to Khanaqhin districts. In this districts the production rate is 19%, the production is 2679.2 tons and the yield is near to 201.7Kg/ donum.

Wheat yield in Kalar district is almost 248.7Kg/ donum that comprise the highest level of yield in Garmyan with production of 4276.4 tons.

-The highest and lowest rate of barley production in Duhok district

The highest rate of barley production belongs to Bardarash district which is near to 56%, its production is 12607.1 tons and its yield is near to 464.4Kg/ donum. The lowest rate of barley production belongs to Zakho districts. In this districts the production rate is near to 2%, the production is 478.1 tons and the yield is near to 258.7Kg/ donum which is the lowest level of yield in Duhok governorate.

The yield and production for other districts of Duhok governorate are as following

Duhok center district, the yield is near to 510.3Kg/ donum, and production is 1200.2 tons.

Shekhan district, the yield is near to 418.8Kg/ donum, and production is 1227.9 tons.

Akre district, the yield is near to 387.1Kg/ donum, and production is 3090.2 tons.

Semel district, the yield is near to 367.6Kg/ donum, and production is 2821.7 tons.

Amedi district, the yield is near to 360.5Kg/ donum, and production is 1149.5 tons.

□

- The highest rate of planted area and **chickpeas** production in Kurdistan region

The highest rate of chickpeas planted area which comprises the land area of 17906.9 donums and 58% of total chickpeas planted area is located in Duhok governorate and its yield is 119.2 Kg/donums. The highest rate of chickpeas production belongs to Duhok governorate which reaches 1991.4 tons.

The production and yield of chickpeas in other governorates are as follow:

In Erbil governorate, the chickpeas planted area covers a land area of 5265.8 donums, the yield is near to 101.4Kg/donum and its production is 662.2 tons.

In Sulaimany center governorate, the chickpeas planted area covers a land area of 6399 donums and the yield is near to 141.1Kg/donum with production of 801 tons.

In Garmyan, the chickpeas planted area covers a land area of 1127 donums and the yield is near to 8.7Kg/donum with production of 26.2 tons.

- The highest rate of planted area and **lentil** production in Kurdistan region

The highest rate of lentil planted area which comprises the land area of 425 donums and 56% of total lentil planted area is of Duhok governorate and its yield is near to 60.5Kg/donums. The highest rate of lentil production belongs to Duhok governorate with 48.1 tons. □

The area, production, and yield of lentil in other governorates are as follow:

In Erbil governorate, the land area is 156 donums, the yield is near to 150Kg/donum and its production is 23.4 tons.

In Sulaimany center governorate, the land area is 178 donums and the yield is near to 110.8Kg/donum with production of 14 tons.

There was no lentil production in Garmyan.

The rate of **fertilized land area** at the level of Kurdistan region

- For wheat planted area, 73% of total land area has been fertilized.
- And for barley planted area, 40% of total land area has been fertilized

The rate of **pests- struck** agricultural land area at the level of Kurdistan region

- 5% of total wheat planted area has been struck by agricultural pests
- And for barley, 5% of total area has been struck by agricultural pests

Total cost of one donum planting area for wheat and barley in Kurdistan region:

- The highest cost of wheat production is recorded in Suleymania governorate. It makes 34% of total cost which is 170,000 ID per donum. The lowest cost of wheat production belongs to Garmian. It makes 14% of total cost which is almost 67,000 ID per donum.

The total cost for wheat production in Erbil and Duhok governorate:

In Erbil governorate, the total cost per donum is 142,000 ID.

And in Duhok governorate, the total expenditure cost donum is 116,000 ID.

- The highest cost of barely production is recorded in Suleymania governorate. It makes 33% of total cost which is almost 156,000 ID per donum. The lowest cost of barely production belongs to Garmian. It makes 15% of total cost which is 71,000 ID per donum.

□

The total cost for wheat production in Erbil and Duhok governorate:

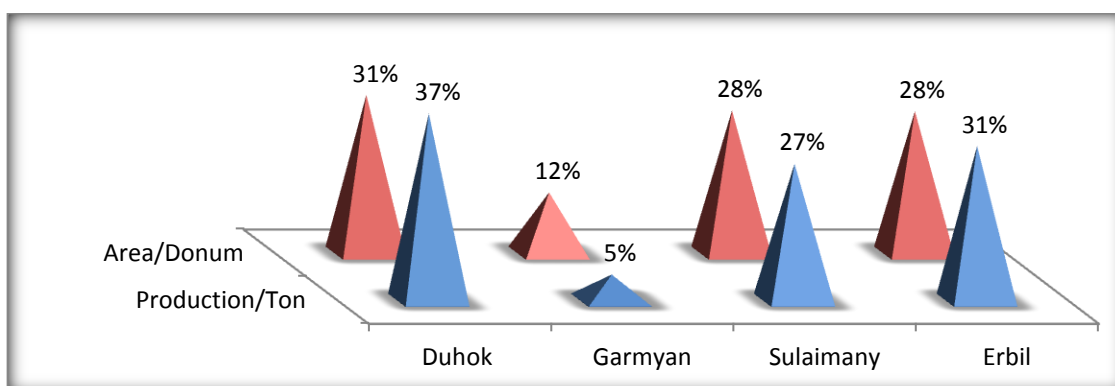
In Erbil governorate, the total cost per donum is 130,000 ID

And in Duhok governorate, the total cost per donum is 117,000 ID

Table 1: area, yield, and wheat production in Kurdistan region's governorates 2012-201

Governorate	Planted Area (Donum)	Yield (Kg/Donum)	Production (Ton)
Erbil	636,828.50	486.4	317,590.8
Sulaimany	640,117.00	486.9	281,178.2
Garmyan	272,719.00	200.2	52,991.8
Duhok	710,008.00	485.9	384,103.5
Kudistan Region	2,259,672.50	414.8	1,035,864.4

Figure1: the rate of area and wheat production in Kurdistan region's governorates for winter 2012-2013



Increasing of 120% of wheat yield in Kurdistan region for winter 2012-2013 comparing to winter 2011-2012

Table 2 : the percentage difference of area, yield, and wheat production in Kurdistan region

production (ton)	yield (kg/ donum))	Area (donum)	Growing season
381284.5	188.2	2270502.0	2011-2012
1035864.4	414.8	2259672.5	2012-2013
+172%	+120%	-0.5%	Percentage differences

Table 3: weight and production of straw for wheat crop in Kurdistan region

governorate	weight of straw kg/donum	planted area (wheat)	straw product/ ton
Erbil	817.8	636,828.50	520,826.40
Sulaimani	938.3	640,117.00	600,639.40
Duhok	794.7	710,008.00	564,256.10

Table 4: percentage difference of area, yield, and wheat production in Kurdistan region's governorates

governorate	Growing season	Area (donum)	yield (kg/donum)	product (ton)
Erbil	2011-2012	628827.5	243.8	101292.4
	2012-2013	636828.5	486.4	317590.8
	percentage difference	1%	99%	214%
Sulaimani	2011-2012	727646.5	256.6	161779.3
	2012-2013	640117	486.9	281178.2
	percentage difference	-12%	90%	74%
Garman	2011-2012	202880.5	36.6	1969.7
	2012-2013	272719	200.2	52991.8
	percentage difference	34%	447%	2590%
Duhok	2011-2012	711147.5	215.9	116243.1
	2012-2013	710008	485.9	384103.5
	percentage difference	-0.20%	125%	230%

Figure2 : area and wheat production in Erbil governorate for winter 2012-2013

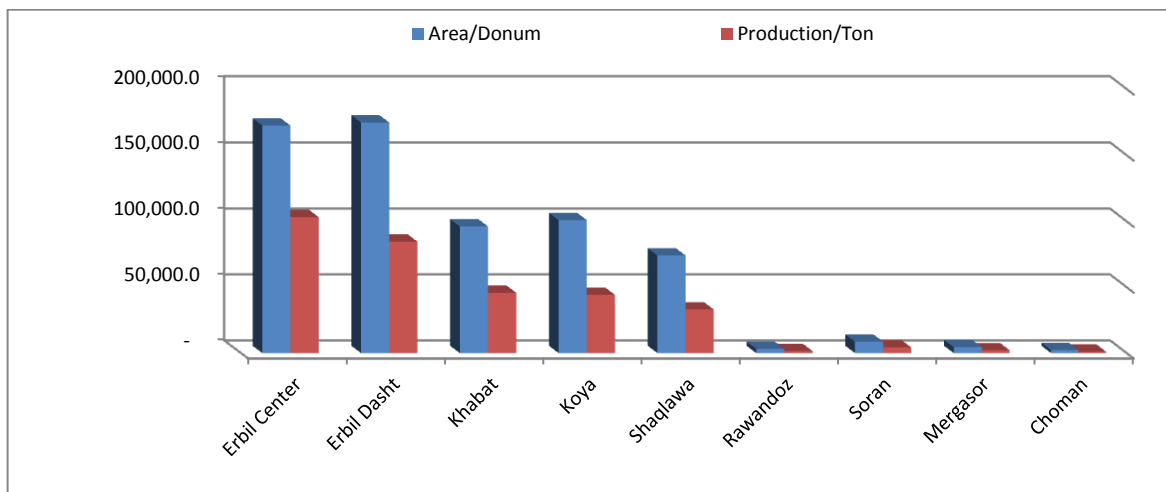


Figure 3: area, and wheat production in Sulaimany center for winter 2012-2013

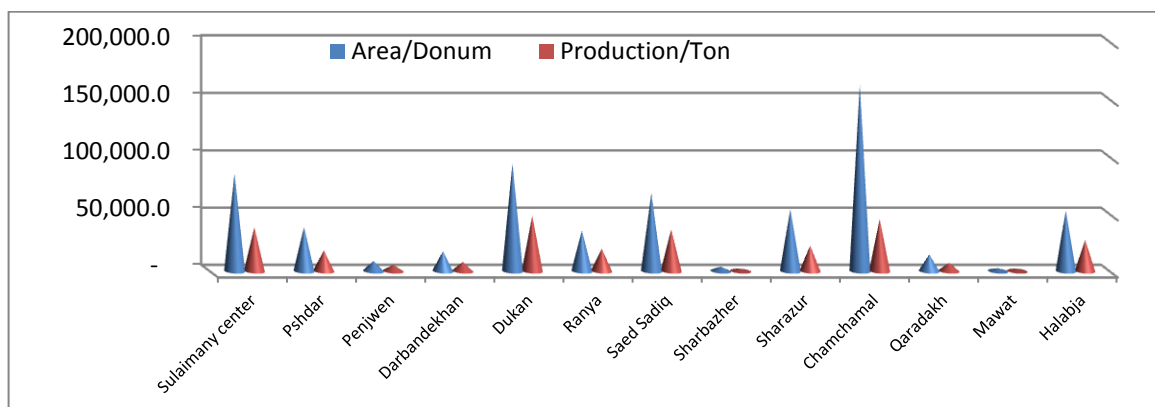


Figure 4: area, and wheat production in Duhok governorate for winter 2012-2013

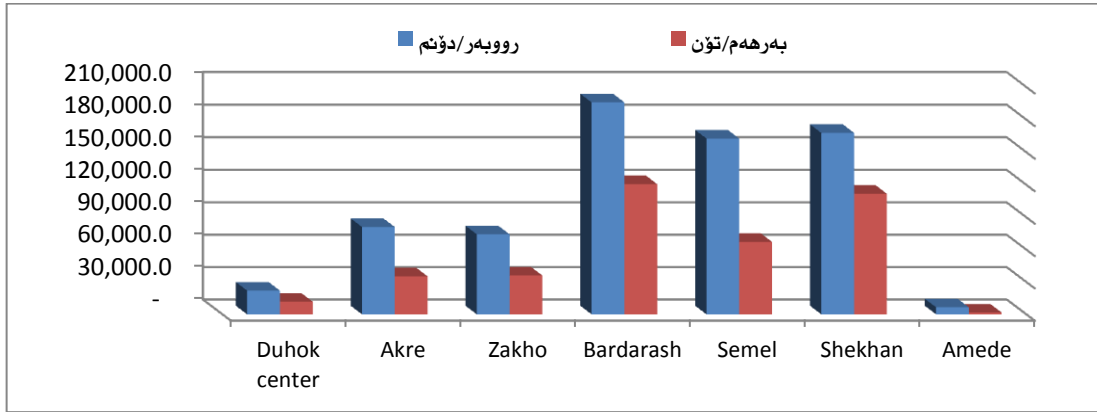


Figure 5: area, and wheat production in Garmyan for winter 2012-2013

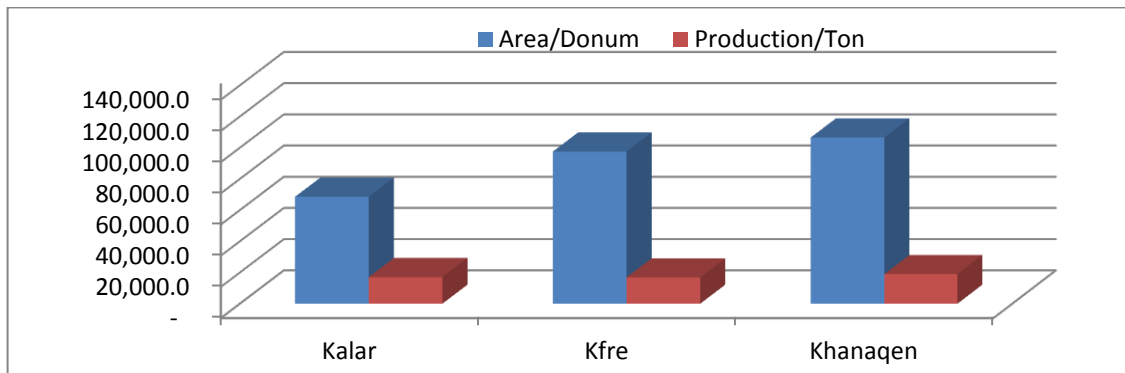


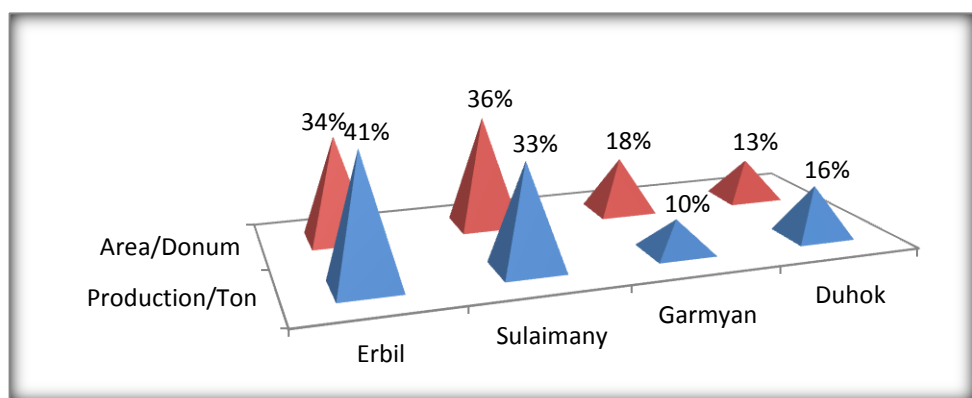
Table 5: area, yield, and wheat production in Kurdistan region's governorates for winter 2012-2013

Governorate	District	Area/Donum	Yield Kg/Donum	Production/Ton
Erbil	center Erbil	172,334.50	589.6	101,608.4
	Erbil Dasht	174,700.50	452.5	79,052.0
	Khabat	96,153.00	544	52,307.2
	Koya	100,923.00	432.5	43,649.2
	Shaqlawa	74,084.00	430.5	31,893.2
	Rawandoz	3,188.50	481.8	1,536.2
	Soran	8,647.00	491.5	4,250.0
	Mergasor	4,486.00	499.1	2,239.0
	Choman	2,312.00	456.6	1,055.7
Sulaimany	Sulaimany center	85,439.50	448.9	38,353.8
	Pshdar	38,636.50	473	18,275.1
	Penjwen	8,764.00	635.2	5,566.9
	Darbandekhan	17,492.00	462.5	8,090.1
	Dukan	94,572.50	513.2	48,534.6
	Ranya	35,594.50	555.6	19,776.3
	Saed Sadiq	68,378.00	534.4	36,541.2
	Sharbazher	3,947.00	463.8	1,830.6
	Sharazur	54,341.00	412.5	22,415.7
	Chamchamal	162,895.00	280.3	45,659.5
	Qaradakh	14,607.50	503.1	7,349.0
	Mawat	2,540.50	528.1	1,341.6
	Halabja	52,909.00	518.7	27,443.9
Duhok	Duhok center	21,999.00	530.2	11,663.9
	Akre	81,010.00	435	35,239.4
	Zakho	74,224.00	484.5	35,961.5
	Bardarash	195,891.00	615.6	120,590.5
	Semel	162,568.00	413.3	67,189.4
	Shekhan	167,798.00	666.2	111,787.0
	Amede	6,518.00	256.5	1,671.9
Garmyan	Kalar	68,588.00	248.9	17,071.6
	Kfre	97,570.00	173.2	16,899.1
	Khanaqen	106,561.00	178.5	19,021.1

Table 6: area, yield, and barley production in Kurdistan region's governorates for winter 2012-2013

Governorate	Planted area/Donum	Yield Kg/Donum	Production/Ton
Erbil	137,140.00	432.3	57,088.4
Sulaimany	146,413.00	374.9	46,198.9
Garmyan	72,669.00	207	14,157.6
Duhok	53,126.50	395.3	22,574.7
Kudistan Region	409,348.50	352.4	140,019.6

Figure 6: the rate of area and barley production in Kurdistan region's governorates for winter 2012-2013



Increasing of 128% in barley yield in Kurdistan region for winter 2012-2013 compared to 2011-2012

Table 7: percentage difference of area, yield, and barley production in Kurdistan region

production (ton)	yield (kg/donum)	area (donum)	Growing season
41740.7	154.2	339406.0	2011-2012
140019.6	352.4	409348.5	2012-2013
+235%	+128%	+21%	percentage difference

Table 8: weight and straw production for wheat crop in Kurdistan region's governorates

governorate	weight of straw(kg/donum)	barley planted area	straw production (ton)
Erbil	699.6	137,140.00	95,945.60
Suleymani	825.5	146,413.00	120,865.90
Duhok	782.3	53,126.50	41,558.90

Table 9: percentage difference of area, yield, and barley production in Kurdistan region's governorates

governorate	Growing season	area (donu)	yield (kg/donum)	production (ton)
Erbil	2011-2012	110176	153.6	11633.1
	2012-2013	137140	432.3	57088.4
	percentage difference	24%	181%	391%
Sulaimani	2011-2012	120915.5	234.9	22406.4
	2012-2013	146413	374.9	46198.9
	percentage difference	21%	60%	106%
Garmyan	2011-2012	58224	-	-
	2012-2013	72669	207	14157.6
	percentage difference	25%	100%	100%
Duhok	2011-2012	50090.5	228.5	7701.2
	2012-2013	53126.5	395.3	22574.7
	percentage difference	6%	73%	193%

- : Indicates no production

Figure 7: area and barley production in Erbil governorate for winter 2012-2013

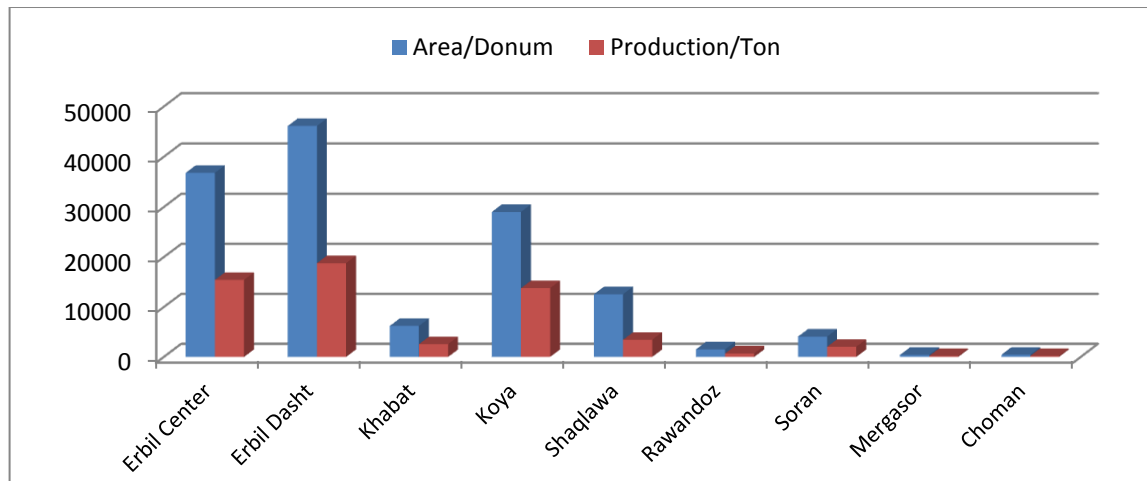


Figure 8: area and barley production in Sulaimani governorate for winter 2012-2013

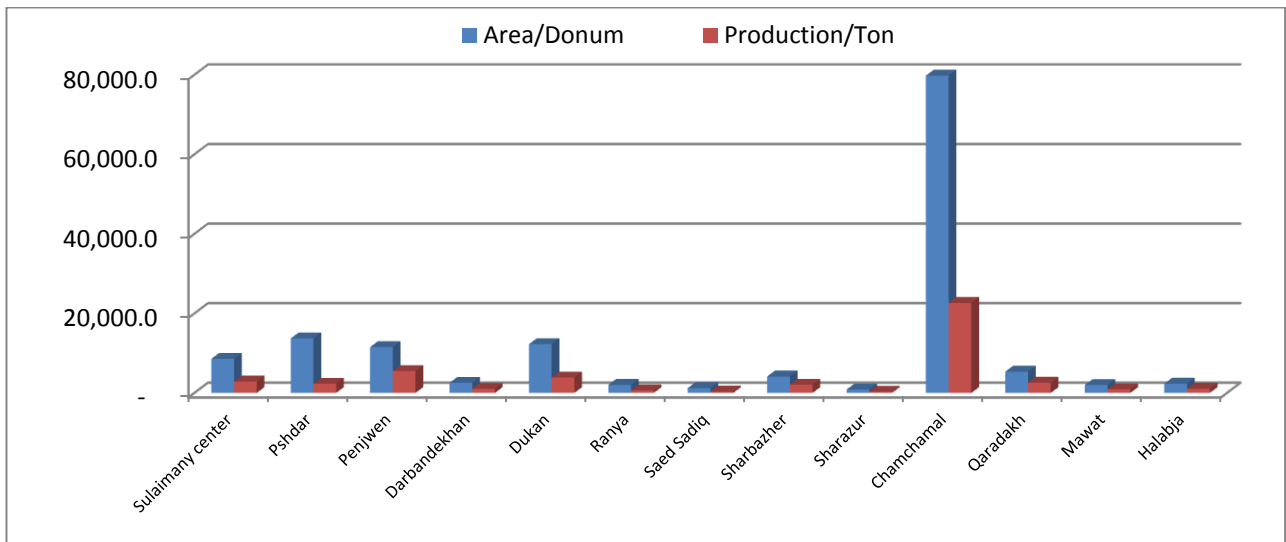


Figure 9: area and barley production in Duhok governorate for winter 2012-2013

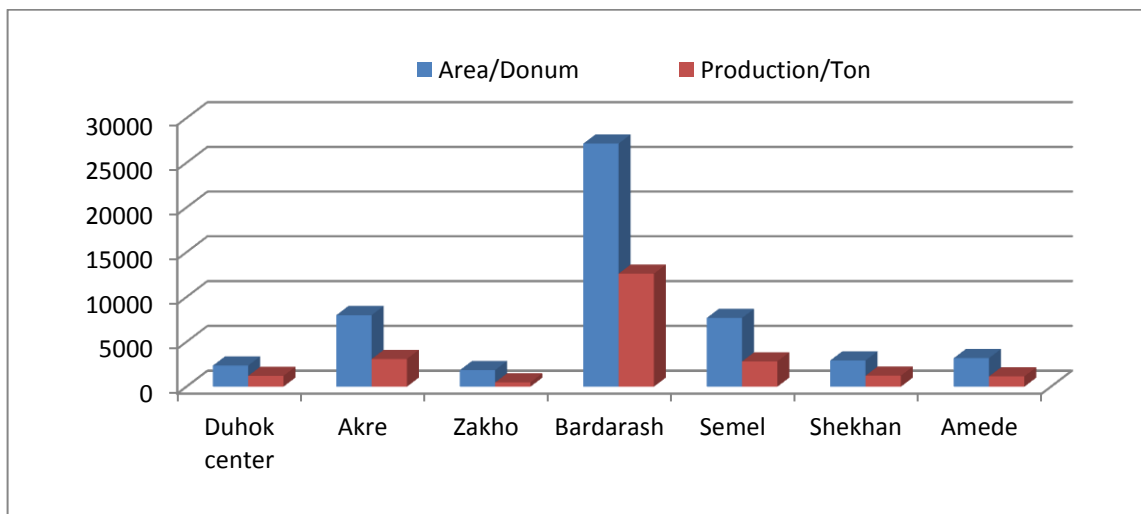


Figure 10: area and barley production in Garmyan for winter 2012-2013

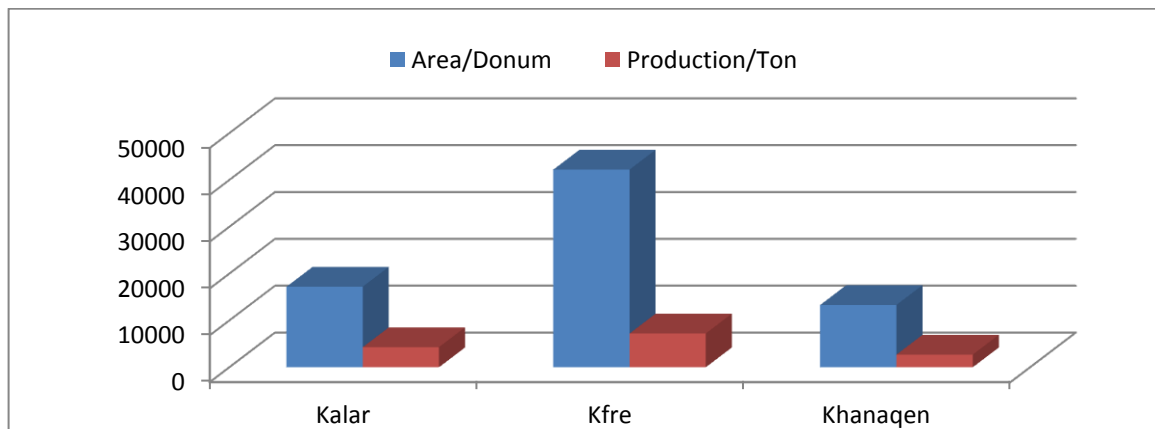


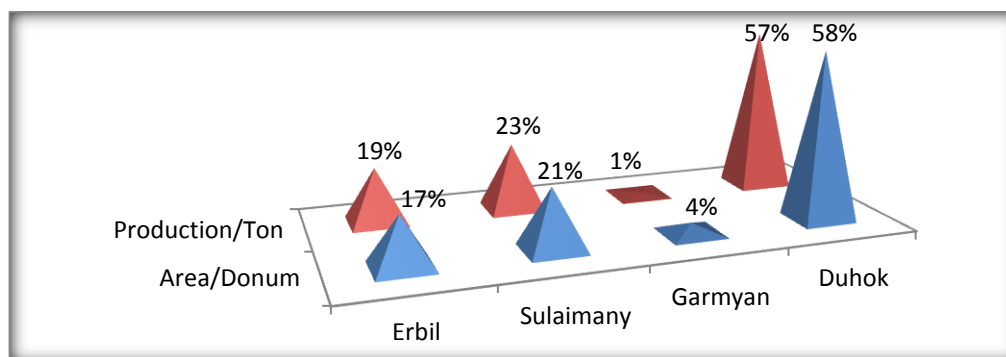
Table 10: area, yield, and barley production in Kurdistan region's governorates for winter 2012-2013

Governorate	District	Area/Donum	Yield Kg/Donum	Production/Ton
Erbil	Erbil center	36,792.50	419.1	15,419.7
	Erbil Dasht	46,124.00	407.1	18,777.1
	Khabat	6,215.00	412.5	2,563.7
	Koya	29,024.00	474.4	13,769.0
	Shaqlawā	12,559.50	272.9	3,427.5
	Rawandoz	1,507.50	461.5	695.7
	Soran	4,067.50	500.4	2,035.4
	Mergasor	413	488.3	201.7
	Choman	437	454.7	198.7
Sulaimany	Sulaimany center	8,583.00	335.4	2,878.7
	Pshdar	13,719.50	167.7	2,300.8
	Penjwen	11,548.00	476.5	5,502.6
	Darbandekhan	2,539.00	412.5	1,047.3
	Dukan	12,270.50	316.4	3,882.4
	Ranya	2,039.00	312.5	637.2
	Saed Sadiq	1,236.00	281.3	347.7
	Sharbazher	4,149.00	495.8	2,057.1
	Sharazur	840	383.3	322.0
	Chamchamal	79,801.00	283.6	22,631.6
	Qaradakh	5,356.50	483.3	2,588.8
	Mawat	1,987.50	466.7	927.6
Halabja	2,344.00	458.7	1,075.2	
Duhok	Duhok center	2,352.00	510.3	1,200.2
	Akre	7,983.00	387.1	3,090.2
	Zakho	1,848.00	258.7	478.1
	Bardarash	27,147.00	464.4	12,607.1
	Semel	7,676.00	367.6	2,821.7
	Shekhan	2,932.00	418.8	1,227.9
	Amede	3,188.50	360.5	1,149.5
Garmyan	Kalar	17,195.00	248.7	4,276.4
	Kfre	42,191.00	170.7	7,202.0
	Khanaqen	13,283.00	201.7	2,679.2

Table 11: the rate of area, yield, and chickpeas production in Kurdistan region's governorates for winter 2012-2013

Governorate	Planted area/Donum	Yield Kg/Donum	Production/Ton
Erbil	5,265.80	101.4	662.2
Sulaimany	6,399.00	141.1	801.0
Garmyan	1,127.00	8.7	26.2
Duhok	17,906.90	119.2	1,991.4
Kudistan Region	30,698.70	92.6	3,480.8

Figure 11: the rate of area and chickpeas production in Kurdistan region's governorates for winter 2012-2013



Increasing of 5% in chickpeas yield in Kurdistan region for winter 2012-2013 compared to 2011-2012

Table 12: Percentage difference of area, yield, and chickpeas production in Kurdistan region

production (ton)	yield (kg/donum)	area (donum)	Growing season
4213.8	88.4	41402.7	2011-2012
3480.8	92.6	30698.7	2012-2013
-17%	+5%	-26%	percentage difference

Table 13: percentage difference of area, yield, and chickpeas production in Kurdistan region's governorates

governorate	Growing season	Area (donum)	Yield (kg/donum)	production (ton)
Erbil	2011-2012	11015.7	116.2	1353.5
	2012-2013	5265.8	101.4	662.2
	percentage difference	-52%	-13%	-51%
Sulaimany	2011-2012	10288	101.8	1114.6
	2012-2013	6399	141.1	801.0
	percentage difference	-38%	39%	-28%
Garmyan	2011-2012	469	56.3	26.5
	2012-2013	1127	8.7	26.2
	percentage difference	140%	-85%	-1%
Duhok	2011-2012	19630	79.4	1719.2
	2012-2013	17906.9	119.2	1991.4
	percentage difference	-9%	50%	16%

Figure 12: area and chickpeas production in Erbil governorate for winter 2012-2013

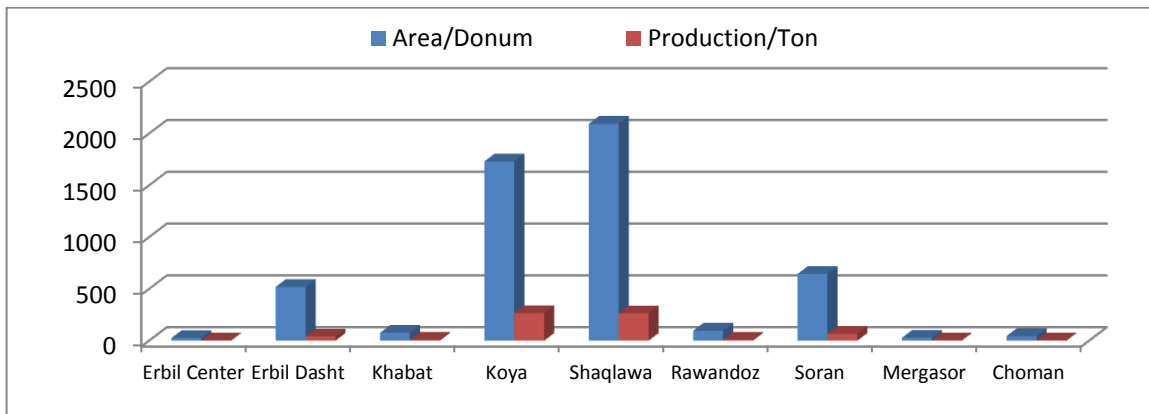


Figure 13: area and chickpeas production in Sulaimani governorate for winter 2012-2013

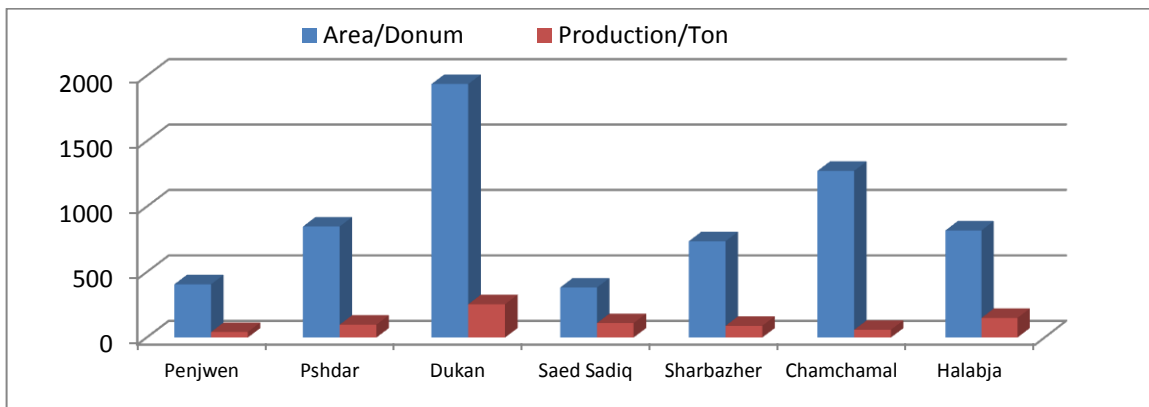


Figure 14: area and chickpeas production in Duhok governorate for winter 2012-2013

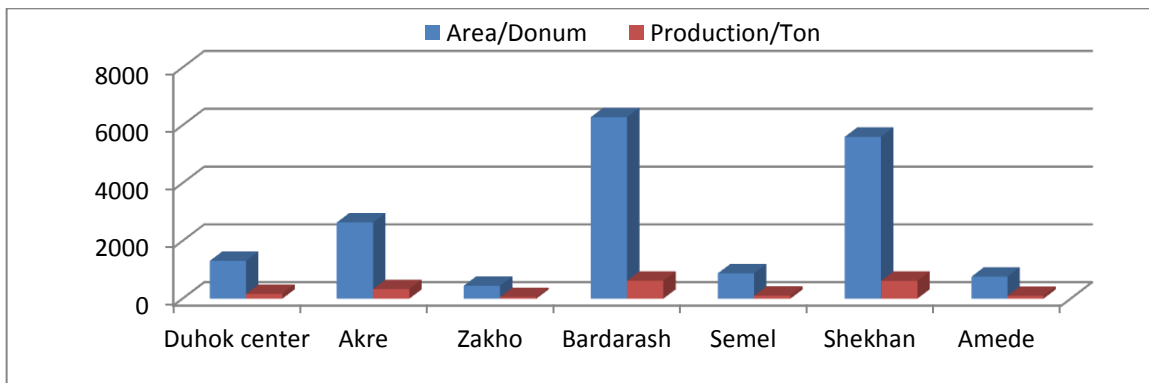


Figure 15: area and chickpeas production in Garmany for winter 2012-2013

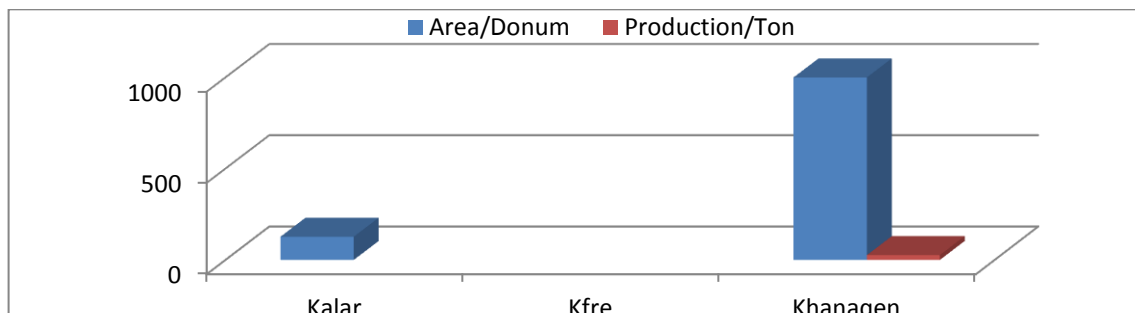


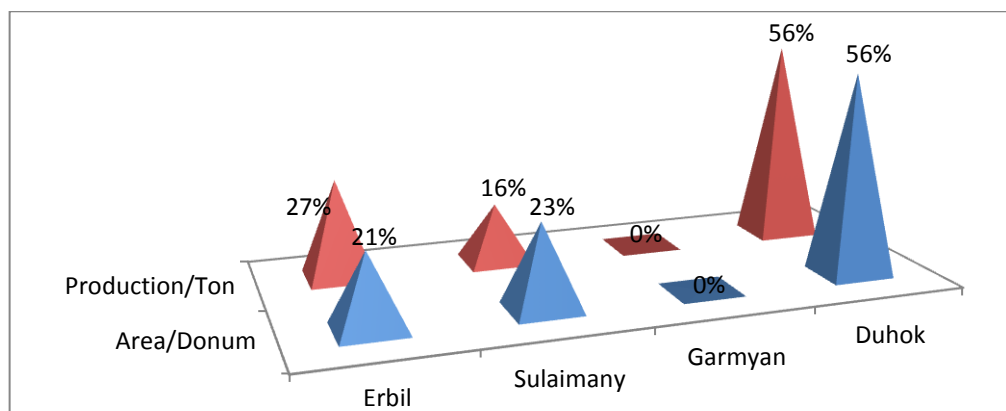
Table 14: area, yield, and chickpeas production in Kurdistan region's governorates

Governorate	District	Area/Donum	Yield Kg/Donum	Production/Ton
Erbil	Erbil center	26	83	2.2
	Erbil Dasht	520	78	40.6
	Khabat	77	112	8.6
	Koya	1,731.50	154	266.7
	Shaqlawā	2,095.00	126	264
	Rawandoz	97.3	97	9.4
	Soran	645	101	65.1
	Mergasor	28.5	99	2.8
	Choman	45.5	63	2.9
Sulaimany	Penjwen	406	103.3	41.9
	Pshdar	848	115.5	97.9
	Dukan	1,936.5	131.2	254.1
	Saed Sadiq	382	288	110.0
	Sharbazher	735.5	121.3	89.2
	Chamchamal	1,273.0	46	58.6
	Halabja	818	182.5	149.3
	Duhok	Duhok center	1,306.0	126
Akre		2,637.0	126	332.3
Zakho		446	129.3	57.7
Bardarash		6,280.0	99	621.7
Semel		874	116	101.4
Shekhan		5,601.0	110	616.1
Amede		762.9	128	97.7
Garmyan	Kalar	127	-	-
	Kfre	-	-	-
	Khanaqen	1,000.00	26.2	26.2

Table 15: area, yield, and lentils production in Kurdistan region's governorates for winter 2012-2013

Govetnorate	Area/Donum	Yield Kg/Donum	Production/Ton
Erbil	156	150	23.4
Sulaimany	178	110.8	14.0
Garmyan	1	-	-
Duhok	425	60.5	48.1
Kurdistan Region	760	80.3	85.5

Figure 16: the rate of area and lentil production in Kurdistan region's governorates for winter 2012-2013



Increasing of 36% in lentils yield in Kurdistan region for winter 2012-2013 compared to 2011-2012

Table 16: percentage difference of area, yield, and lentil production in Kurdistan region

Growing season	Area (donum)	yield (kg/donum)	Production (ton)
2011-2012	573.5	78.7	46.5
2012-2013	760	107.1	85.5
percentage difference	33%	36%	84%

Table 17: percentage difference of area, yield, and lentil production in Kurdistan region's governorates

governorate	Growing season	Area (donum)	yield (kg/donum)	Production (ton)
Erbil	2011-2012	111	132.1	14.7
	2012-2013	156	150	23.4
	percentage difference	41%	14%	60%
Sulaimany	2011-2012	234	68.3	15.3
	2012-2013	178	110.8	14.0
	percentage difference	-24%	62%	-9%
Garmyan	2011-2012	15	40	0.6
	2012-2013	1	0	0
	percentage difference	-93%	-100%	-100%
Duhok	2011-2012	213.5	74.4	15.9
	2012-2013	425	60.5	48.1
	percentage difference	99%	-19%	203%

Figure 17: area and lentil production in Sulaimani governorate for winter 2012-2013

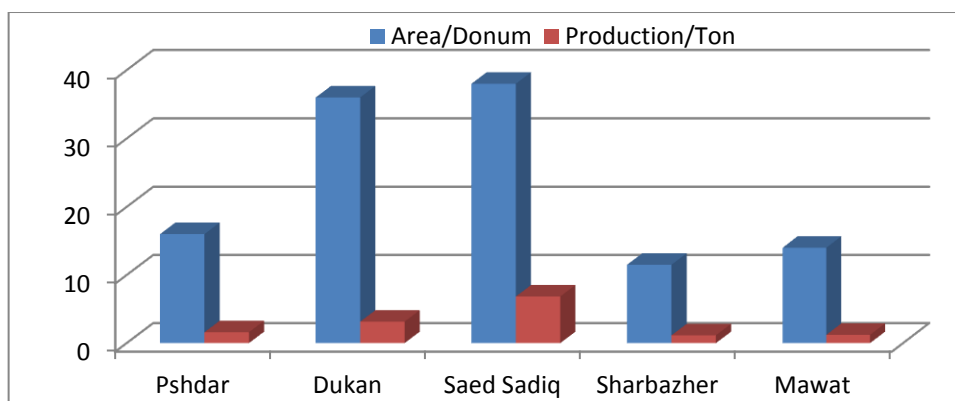


Figure18 : area and lentil production in Duhok governorate for winter 2012-2013

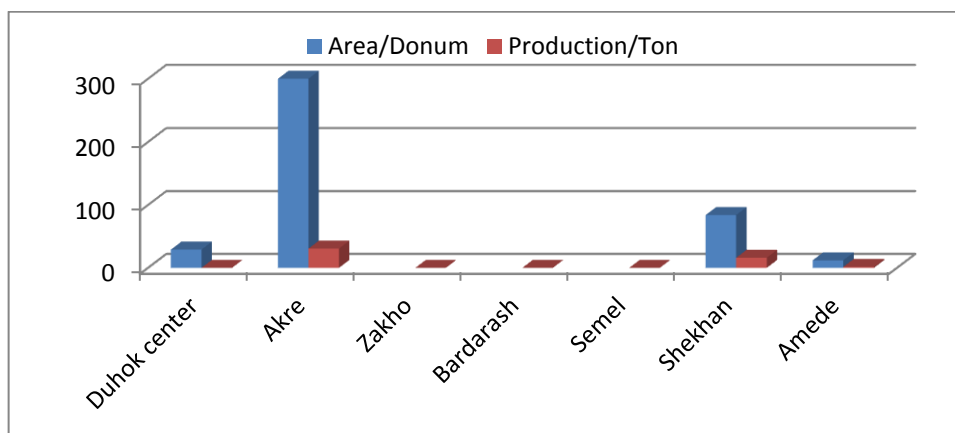


Table 18: area, yield, and lentil production in Kurdistan region' governorates

Governorate	District	Area(Donum)	Yield (Kg/Donum)	Production (Ton)
Sulaimany	Pshdar	16	100	1.6
	Dukan	36	87.5	3.2
	Saed Sadiq	38	180	6.8
	Sharbazher	11.5	100	1.2
	Mawat	14	86.6	1.2
Duhok	Duhok center	29	-	-
	Akre	300	101.8	30.5
	Shekhan	84	191	16.0
	Amedi	12	130.3	1.6

Land topography

The outcomes of winter crop survey 2012-2013 shows that, the flat area comprises the highest rate (60.8%) of agriculture land, hilly land, and mountainous land comprise 37.5% and 1.7% of agricultural land respectively.

Figure 19: the rate of land area by topography division in Kurdistan region

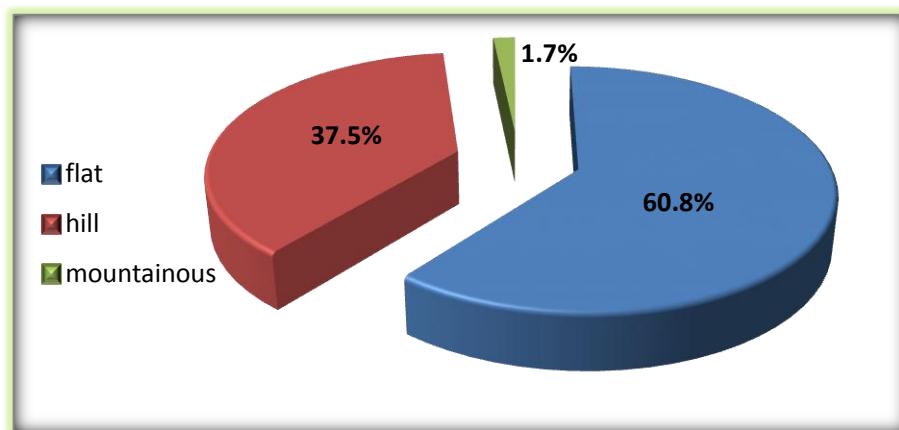


Table 19: topography of agricultural land in Kurdistan region's governorates

governorate	Topography of land	%
Erbil	flat	45.10%
	mountainous	0.30%
	hilly	54.60%
Sulaimany	flat	70.70%
	hilly	26.60%
	mountainous	2.70%
Duhok	flat	60.40%
	hilly	36.60%
	mountainous	3.00%
Garmyan	flat	73.90%
	hilly	26.10%
	mountainous	0.00%

Fertilizing of winter crop planted area 2012-2013

- wheat

73% of total wheat planted area (2259672.5 donums) which covers 1652501 donums of land area has been fertilized for winter 2012-2013.

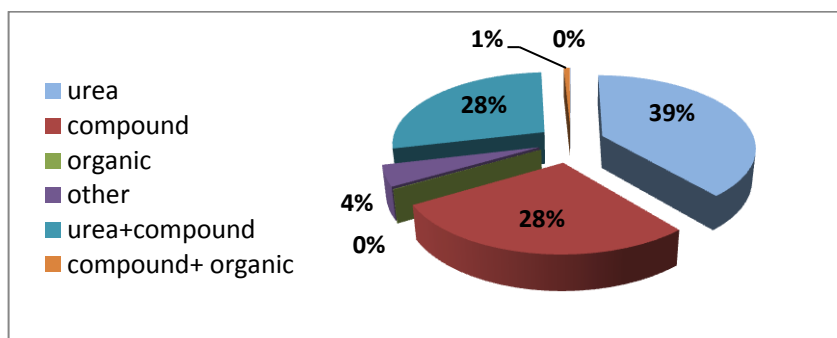
Table 20: the rate of fertilized wheat planted area in Kurdistan region's governorates

governorate	Planted area	Fertilized area	Rate of fertilized area
Erbil	636,828.50	542,768.30	85%
Sulaimany	640,117.00	412,764.00	64%
Duhok	710,008.00	568,151.40	80%
Garmyan	272,719.00	128,817.90	47%

□

Types of fertilizers that have been used are: Urea, compound, organic, etc.

Figure 20: the rate of fertilizer types used for wheat planted area in Kurdistan region



□

Table 21: consumption rate of different type of fertilizers for wheat crop in Kurdistan region's governorates

Governorate	Type of fertilizer	Fertilized area	%
Erbil	urea	45,148.90	8.30%
	compound	128,249.00	23.60%
	urea+ compound	369,370.30	68.10%
Sulaimany	urea	63,916.60	15.50%
	compound	175,480.20	42.50%
	organic	1,690.40	0.40%
	other	17,009.20	4.10%
	Urea+ compound	126,882.40	30.70%
	Compound+ organic	27,785.20	6.70%
Duhok	Urea	319,197.00	56.20%
	compound	162,664.30	28.60%
	other	2,769.10	0.50%
	Urea+ compound	83,521.00	14.70%
Garmyan	urea	9,019.30	7.00%
	compound	11,210.40	8.70%
	organic	356.7	0.30%
	other	67,772.10	52.60%
	urea+ compound	39,542.20	30.70%
	urea+organic	917.2	0.70%

- barley

40% of total wheat planted area (409348.5 donums) which covers 210237 donums of land area has been fertilized for winter 2012-2013.□

Table 22: the rate of fertilized barley planted area in Kurdistan region's governorates

governorate	Planted area	Fertilized area	Rate of fertilized area
Erbil	137,140.00	30,885.60	23%
Sulaimany	146,413.00	66,190.70	45%
Duhok	53,126.50	44,554.80	84%
Garmyan	72,669.00	22,379.50	31%

Types of fertilizers that have been used are: Urea, compound, organic, etc.

Figure 21: types of fertilizers used for barley crop in Kurdistan region

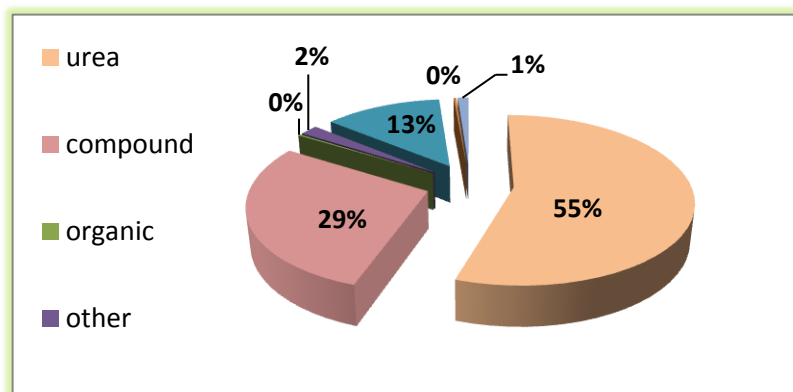


Table 23: consumption rate of fertilizer types used for barley crop in Kurdistan region's governorates

governorate	of fertilizer type	Fertilized area	%
ERbil	urea	9,115.10	29.50%
	compound	14,601.70	47.30%
	Urea+compound	7,168.80	23.20%
Sulaimany	urea	23,067.60	34.90%
	compound	14,398.90	21.80%
	organic	1,175.40	1.80%
	other	1,910.10	2.90%
	Urea+compound	20,276.00	30.60%
	Compound+organic	5,362.80	8.10%
Duhok	urea	36,633.30	82.20%
	compound	7,921.50	17.80%
Garmyan	urea	6,720.30	30.00%
	compound	8,070.80	36.10%
	other	3,183.30	14.20%
	Urea+compound	3,858.50	17.20%
	Urea+organic	546.6	2.40%

Agricultural pests

- wheat

5.1% of the total wheat planted area (2259672.5 donums) which covers a land area of 105023 donums has been struck by pests for winter 2012-2013. □

Table 24: rate of wheat planted area struck by pests by governorates

governorate	Planted area	Pests-struck area	%
Erbil	636,828.50	15,581.30	2.40%
sulaimany	640,117.00	43,526.70	6.80%
Duhok	710,008.00	16,087.10	2.30%
Garmyan	272,719.00	60,179.60	22.10%

Sunn , smut and others are types of pests that strike the wheat crop.

Figure 22: the rate of pest’s types that struck the wheat crop in Kurdistan region

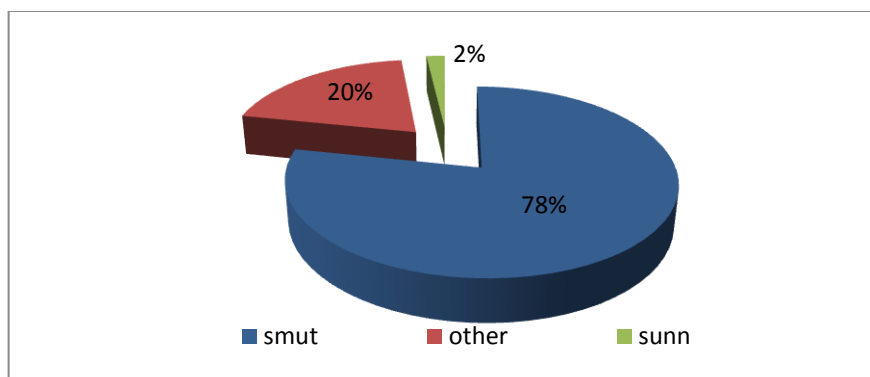


Table 25: rate of wheat planted area struck by different types of pests by governorates

governorate	Pests type	Pest-struck area	%
Erbil	sunn	981.5	6.30%
	smut	9,978.60	64.00%
	other	4,621.20	29.70%
Sulaimany	sunn	633.9	3.50%
	smut	3,063.80	16.90%
	other	14,473.70	79.70%
Duhok	smut	16,087.10	100.00%
Garmyan	smut	33,121.70	55.00%
	other	27,057.90	45.00%

• barley

5.2% of total barley planted area (409348.5 donums) which covers a land area of 20755 donums has been struck by pests for winter 2012-2013.

Table 26: the rate of barley planted area struck by pests by governorates

governorate	Planted area	Pest-struck area	%
Erbil	137,140.00	2,066.90	1.50%
Sulaimany	146,413.00	10,211.40	7%
Duhok	53,126.50	1,165.80	2.20%
Garmyan	72,669.00	9,324.80	12.80%

Smut and other type of pests that struck barley crop

Figure 23: the rate of pest's types that struck the barley crop in Kurdistan region

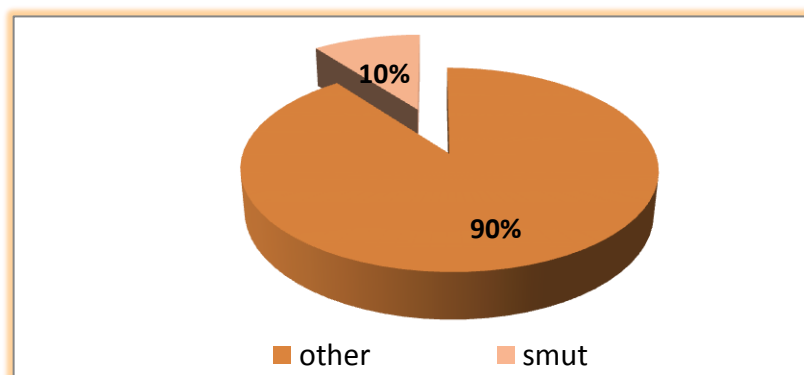


Table 27: the rate of barley planted area struck by pests by governorates

governorate	Pest type	Pest-struck area	%
Erbil	smut	307.8	14.90%
	other	1,759.10	85.10%
Sulaimany	other	10,211.40	100.00%
Duhok	smut	747.3	64.10%
	other	418.5	35.90%
Garmyan	other	9,324.80	100.00%

Farmers' opinions about the rate of raining

Figure 24: rate of raining for winter crops 2012-2013 in Erbil governorate

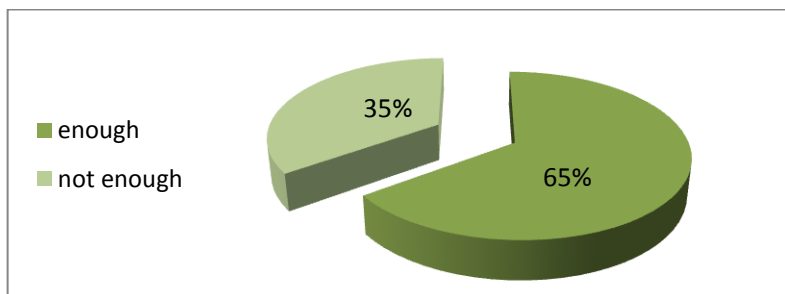


Figure 25: rate of raining for winter crops 2012-2013 in Sulaimani governorate

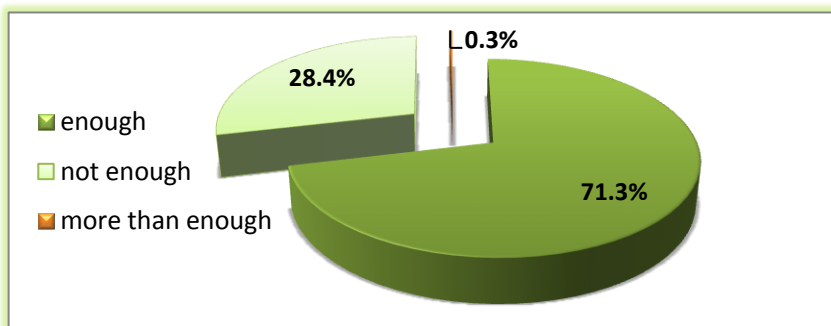


Figure 26: rate of raining for winter crops 2012-2013 in Duhok governorate

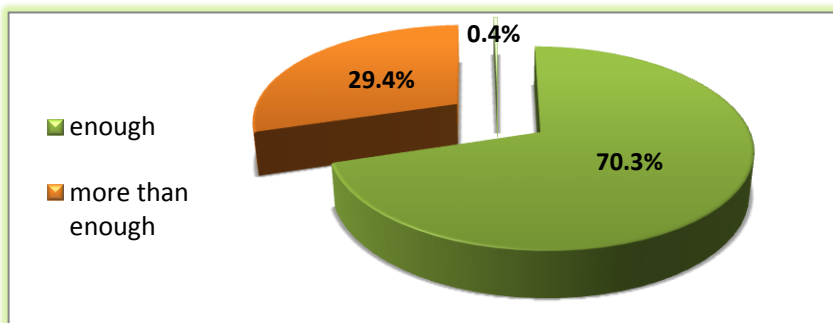


Figure 27: rate of raining for winter crops 2012-2013 in Grmyan administration

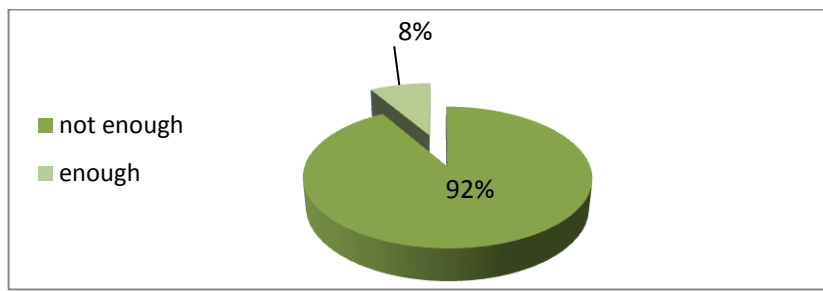


Table 28: the cost of wheat production per donum by governorates 2012-2013 in 1000 ID

Governorate	Tilling	Seed	Seeding	Irrigation	Fertilizer	Seed sterilizing	Weed control	Pests	Harvesting	Cleaning	Transport	Others	Total cost
Erbil	27.7	26.2	2.3	5.4	21.8	1.4	1.6	0.4	35.4	11.2	5.3	2.9	141.6
Sulaimany	23.7	26.5	8.8	3.1	35.8	3	6.1	0.2	26.9	10.3	11.5	14.2	170.1
Duhok	19	24.5	8.2	0.1	24.3	2.1	5.3	0.3	18.2	5.1	6.5	2.4	116
Garmyan	14.7	24.3	2.1	0.9	3.3	0.7	0.6	0.1	13.2	0.6	3.3	3	66.9

Figure 28: the cost of wheat production per donum by governorates for 2012-2013

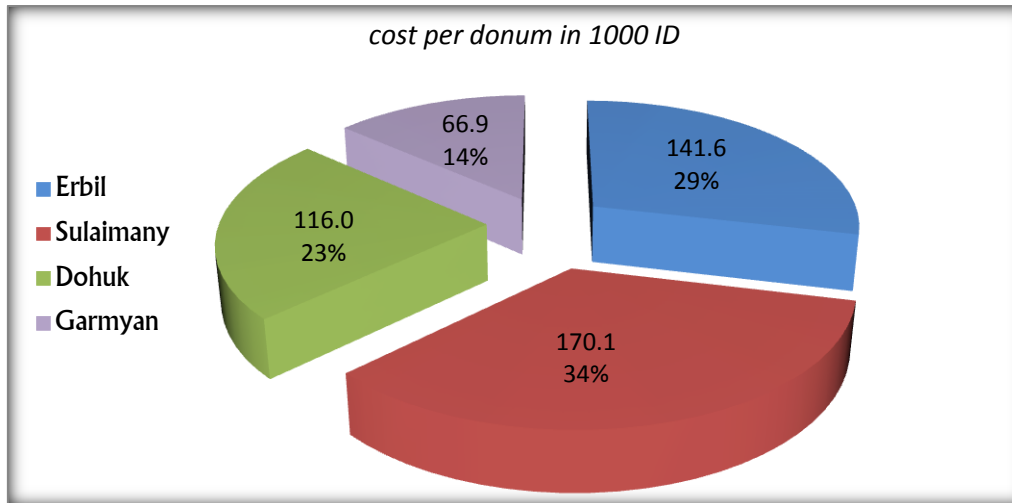


Table 29: percentage difference of the total cost for wheat production in Kurdistan region

Production cost	Growing season
127.1	2011-2012
123.6	2012-2013
-2.8%	percentage difference

Decreasing of 2.8% in the cost of wheat production in Kurdistan region for winter 2012-2013 compared to 2011-2012

Table 30: percentage difference of the total cost for wheat production in Kurdistan region' governorates in 2011-2012, 2012-2013

governorate	Growing season	Production cost
Erbil	2011-2012	168.4
	2012-2013	141.6
	percentage difference	-15.90%
Sulaimany	2011-2012	139.9
	2012-2013	170.1
	percentage difference	21.60%
Garmyan	2011-2012	96.9
	2012-2013	66.9
	percentage difference	-30.90%
Duhok	2011-2012	103.4
	2012-2013	116
	percentage difference	12.20%

Table 31: the cost of barley production per donum by governorates for 2012-2013

Governorate	Tilling	Seed	Seeding	Irrigation	Fertilizer	Seed sterilizing	Weed control	Pests	Harvesting	Cleaning	Transport	Others	Total costs
Erbil	25.6	23.4	2.6	3.1	16.4	0.6	0.8	0.2	37.8	11	4.9	3.3	129.9
Sulaimany	27.2	25.7	9.2	0.4	27.1	2.4	3.6	0.2	25.4	11.7	9	14	155.8
Duhok	17.5	24.5	9.5	0	20.4	1.8	5	0.1	21.5	7.8	5.9	2.9	116.8
Garmyan	14.5	25.9	2.2	1.2	4.6	0.1	0.2	0	14.3	0.4	3.5	3.7	70.7

Figure 29: the cost of barley production per donum by governorates for 2012-2013

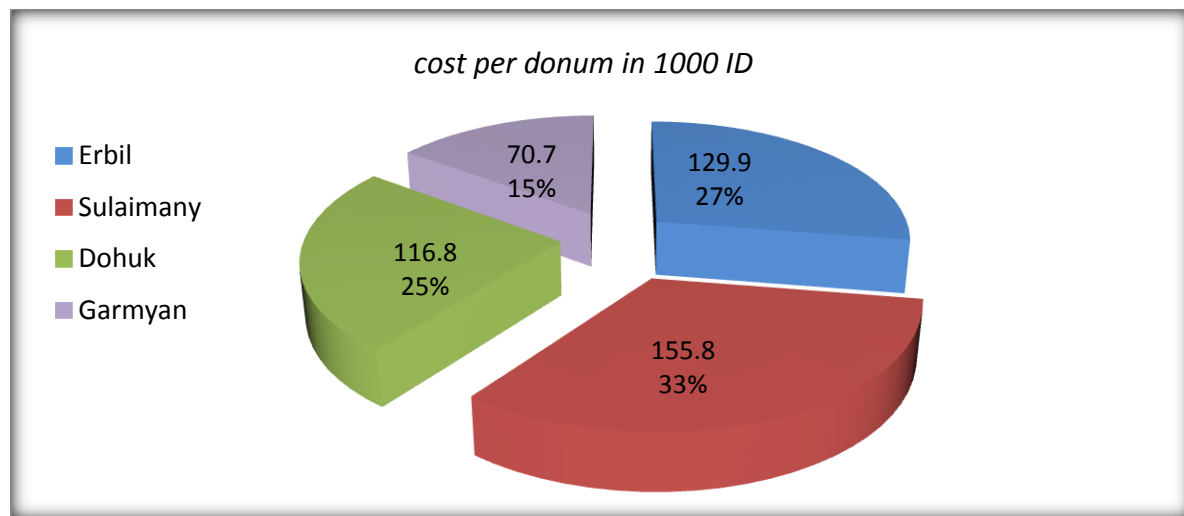


Table 32: percentage difference of the total cost for barley production in Kurdistan region

Production cost	Growing season
99.1	2011-2012
116.7	2012-2013
+17.8%	percentage difference

Increasing of 17.8% in the cost of barley production in Kurdistan region for winter 2012-2013 compared to 2011-2012

Table 33: percentage difference of the total cost for barley production in Kurdistan region' governorates in 2011-2012, 2012-2013

governorat	Growing season	Production cost
Erbil	2011-2012	100.9
	2012-2013	123.5
	percentage difference	22.30%
Sulaimany	2011-2012	135.5
	2012-2013	155.8
	percentage difference	15.00%
Garmyan	2011-2012	65.3
	2012-2013	70.7
	percentage difference	8.30%
Duhok	2011-2012	94.6
	2012-2013	116.8
	percentage difference	23.50%

Table 34: the cost of wheat production per donum by governorates 2012-2013 in 1000 ID

District	Tilling	Seed	Seeding	Irrigation	Fertilizer	Seed sterilizing	Weed control	Pests	Harvesting	Cleaning	Transport	Other	Total cost
Erbil Center	14.2	27.6	0	15.3	11.1	1.4	1.9	0.1	19.8	3.1	2.9	2.7	100.1
Rawandoz	39	20.8	2.6	0	18.1	0.2	0.4	0	54	19.5	7.2	5.7	167.5
Choman	42.9	23.4	3.5	20	16.4	0.3	1.4	0.7	56.8	25.7	10.4	4.6	206.1
Mergasor	36.8	28.9	2.2	0	16.4	0	0.9	0.7	53.2	23	6.1	3.5	171.4
Shaqlawaw	12.8	32.5	4.4	0.2	48.6	1.9	1.9	1.4	32.3	0.6	5.4	0.6	142.6
Soran	32.2	21.1	4	7.3	21.9	0	0.3	0.2	54.7	22.4	7.1	3.9	175.1
Erbil Dasht	15.4	25.8	0.4	3.8	10.7	2	0	0	19.5	0.1	3.6	2.1	83.3
Khabat	17.3	30.5	1.4	2.1	32	4	4.6	0	20.3	3.9	2.6	1.2	119.8
Koya	38.6	25	2.5	0	20.7	2.6	2.8	0.8	8.1	2.6	2.2	2.2	108.3
Average Cost	27.7	26.2	2.3	5.4	21.8	1.4	1.6	0.4	35.4	11.2	5.3	2.9	141.6

Figure 30: the total cost of wheat production per donum in Erbil governorate 2012-2013 in 1000 ID

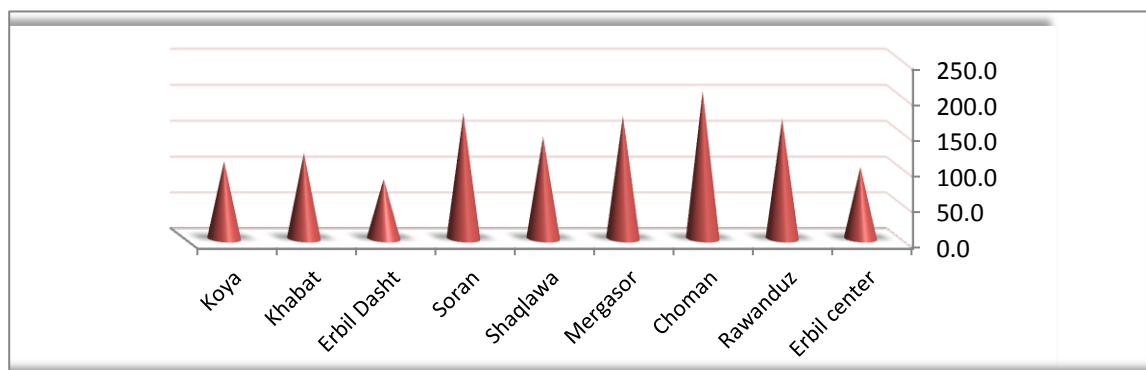


Table 35: the cost of barley production per donum in Erbil governorate 2012-2013 in 1000 ID

District	Tilling	Seed	Seeding	Irrigation	Fertilizer	Seed sterilizing	Weed control	Pests	Harvesting	Cleaning	Transport	Other	Total cost
Erbil Center	12.3	25.4	0	5.6	7.6	2.9	0.5	0	12.8	0.4	2.9	2.1	72.4
Rawandoz	29	22.5	2.8	4	25	0	0.2	0	72	21	4.8	5.5	186.8
Choman	31.9	22.5	3.1	18.1	15	0	0	0.6	51.3	20.6	6	6.4	175.5
Mergasor	35.3	27.9	2.7	0	14.1	0	3.9	0	56.8	24.4	7.7	3.5	176.3
Shaqlawaw	14.3	24.8	3.6	0	28.5	1.6	1.2	1	33.3	0	3.3	0.8	112.5
Soran	34.1	23.3	4.7	0	23.5	0	0.5	0.2	53.3	18.3	8.4	4.4	170.8
Erbil Dasht	13.8	19.8	0.5	0.9	12.3	0	0	0	14.9	0	3.4	2.2	67.7
Khabat	11.4	28.4	0	0	4.4	2.5	0	0	12.5	1.1	2.9	0.6	63.8
Koya	35.4	18.1	3.5	2	8.7	0.5	0.6	0	8.6	2.6	2.5	3.2	85.6
Average Cost	25.6	23.4	2.6	3.1	16.4	0.6	0.8	0.2	37.8	11	4.9	3.3	129.9

Figure 31: the total cost of barley production per donum in Erbil governorate 2012-2013 in 1000 ID

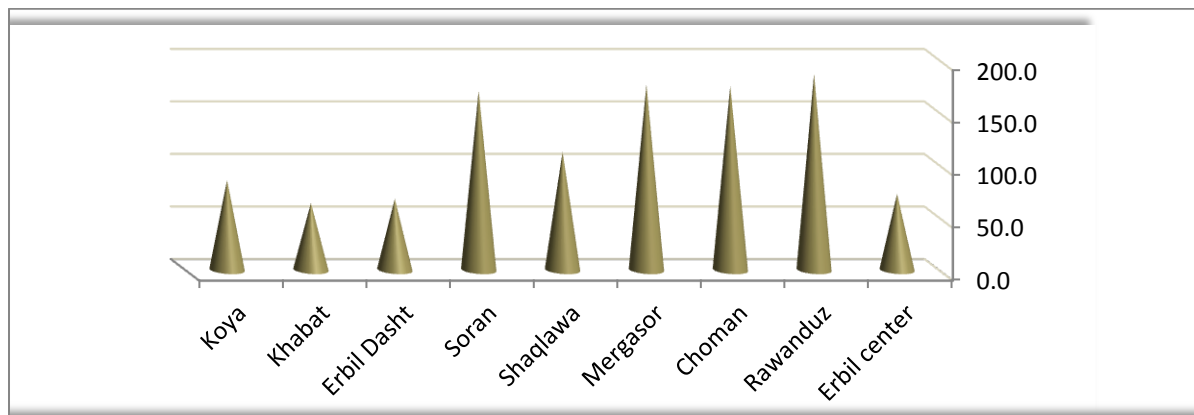


Table 36: the cost of wheat production per donum in Sulaimani governorate 2012-2013 in 1000 ID

District	Tilling	Seed	Seeding	Irrigation	Fertilizer	Seed sterilizing	Weed control	Pests	Harvesting	Cleaning	Transport	Other	Total costs
Sulaimany Center	20.2	22.8	4.4	0.4	32	3.2	4	0	18.3	0	3	2.8	110.9
Pshdar	23.9	35.2	10.7	0	43	1.5	3	0.7	26.7	1.4	16.9	0	163
Penjwen	30	23.7	12.3	0	25	1.3	3.8	0	37.9	26.7	7.5	26.7	194.7
Darbandikhan	23.3	15.7	10.7	10	19.3	4	14.3	0	19.3	20.7	16.7	23.3	177.3
Dokan	28.6	23.4	7.5	0.4	37.8	2	3.1	0	27	3.9	6.4	6.5	146.2
Rania	21.1	42.2	8.8	4.4	56.2	3.7	16.1	0.5	57.8	23.3	10.6	0	244.7
Said Sadiq	27.2	27.7	4.8	16.8	48.6	1.5	7.1	0.9	32.5	0	14.1	13.4	194.6
Sharbazher	28.3	28.7	10.1	0	28.7	0	0	0	30.7	20.7	13.3	26	186.5
Sharazoor	13.7	28.3	3.8	1.7	44.3	1.2	6.2	0.7	20	1.7	9.8	10.8	142.2
Chamchamal	22.5	22.5	4.6	0	3.2	3.8	0	0	17.6	4.7	5	3.7	87.4
Qaradagh	17.4	16.1	14.1	7.2	20.9	10.7	11.7	0	18.6	8.7	15.3	21.3	162
Mawat	25	27.5	9.3	0	32.5	0	0	0	24.4	20.6	13.8	30	183
Halabja	26.7	30.6	13.4	0	73.8	6	9.6	0	19.2	2.2	17.6	20	219
Average Cost	23.7	26.5	8.8	3.1	35.8	3	6.1	0.2	26.9	10.3	11.5	14.2	170.1

Figure 32: the total cost of wheat production per donum in Sulaimany center governorate 2012-2013 in 1000 ID

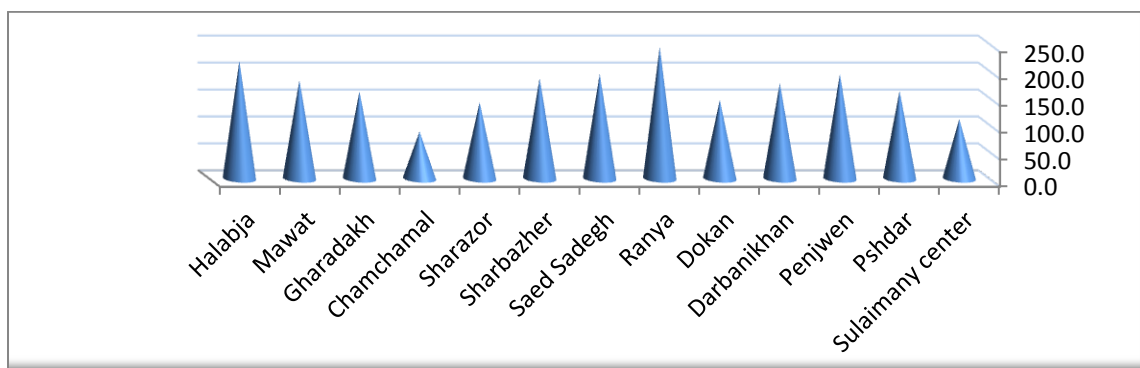


Table 37: the cost of barley production per donum in Sulaimani governorate 2012-2013 in 1000 ID

District	Tilling	Seed	Seeding	Irrigation	Fertilizer	Seed sterilizing	Weed control	Pests	Harvesting	Cleaning	Transport	Others	Total costs
Sulaimany Center	27.5	25.8	5.1	0	30.1	1.4	0.8	0	18.3	0	4.2	3	116.2
Pshdar	57.9	54.4	9.8	0	43.2	2.2	3	0	19.7	0.9	7.4	0	198.5
Penjwen	29.3	24.1	8.5	0	18.4	1.8	0	0	40.9	37.9	5.6	18.6	184.9
Darbandikhan	20	21	18.3	0	24.3	2.7	18.3	0	18.3	16.7	15	25	179.7
Dokan	31.5	25.3	7	0.1	35.5	0.9	1.1	0.4	37.3	12.1	7.9	9.6	168.8
Rania	27.4	28.5	12	0	19.6	2.6	0	0	51	25.4	9.8	0	176.3
Said Sadiq	19	21	4	0	44.7	1.3	1.3	0	25	0	5.7	13.7	135.7
Sharbazher	30.6	28.9	10.1	0	27.9	0	0	0	33.8	23.2	13.8	28.5	197
Sharazoor	17.3	21	4	0	29	2	3	0	19	0	5.3	15.7	116.3
Chamchamal	21	17.4	4.1	0	0.4	0.2	0.1	0	15.6	4.1	4.6	3.2	70.8
Qaradagh	17.9	16.3	14.4	5.7	21.6	12.3	13.6	0	18.3	13.3	15.3	21	169.6
Mawat	25	26.3	10.5	0	31.3	0	0	0	18.8	18.8	8.8	26.3	165.5
Halabja	29.4	24	11.1	0	25.9	4.3	5	2.5	14.1	0	13.1	17.4	146.8
Average Cost	27.2	25.7	9.2	0.4	27.1	2.4	3.6	0.2	25.4	11.7	9	14	155.8

Figure 33: the total cost of barley production per donum in Sulaimany center governorate 2012-2013 in 1000 ID

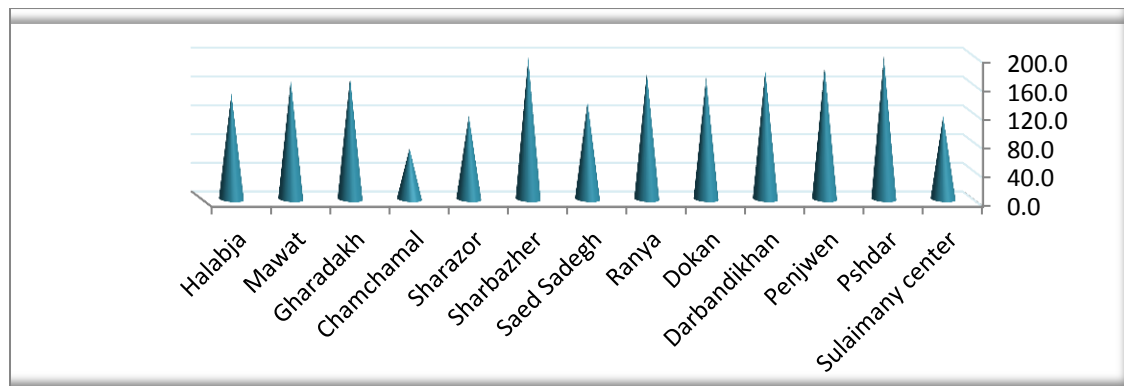


Table 38: the cost of wheat production per donum in Duhok governorate 2012-2013 in 1000 ID

District	Tilling	Seed	Seeding	Irrigation	Fertilizer	Seed sterilizing	Weed control	Pests	Harvesting	Cleaning	Transport	Others	Total costs
Akra	15.6	15.9	8.7	0	22.2	0.3	2.5	0.2	15.4	4	5.3	3.7	93.8
Duhok Center	24.7	19	1.5	0	26.7	0.6	2.2	0.6	24.3	0.9	1.3	1.7	103.5
Zakho	34.4	23.7	10.5	0	29.3	4.6	5.9	0	11.8	1.6	7	5.1	134
Bardarash	7.6	24.7	8.1	0	16.4	1.1	2.4	0	11	0.1	1.6	1.3	74.3
Semel	14.2	24.9	10	0	18.7	4.6	17.1	0	12.6	1.2	16.5	0	119.9
Shekhan	12.4	30.7	12.4	0.5	44.2	1.5	6	1.4	14.3	1.1	7.4	0.4	132.2
Amede	24.2	32.5	6.2	0	12.4	1.8	1	0	38.1	26.7	6.5	4.6	154.1
Average Cost	19	24.5	8.2	0.1	24.3	2.1	5.3	0.3	18.2	5.1	6.5	2.4	116

Figure 34: the total cost of wheat production per donum in Duhok governorate 2012-2013 in 1000 ID

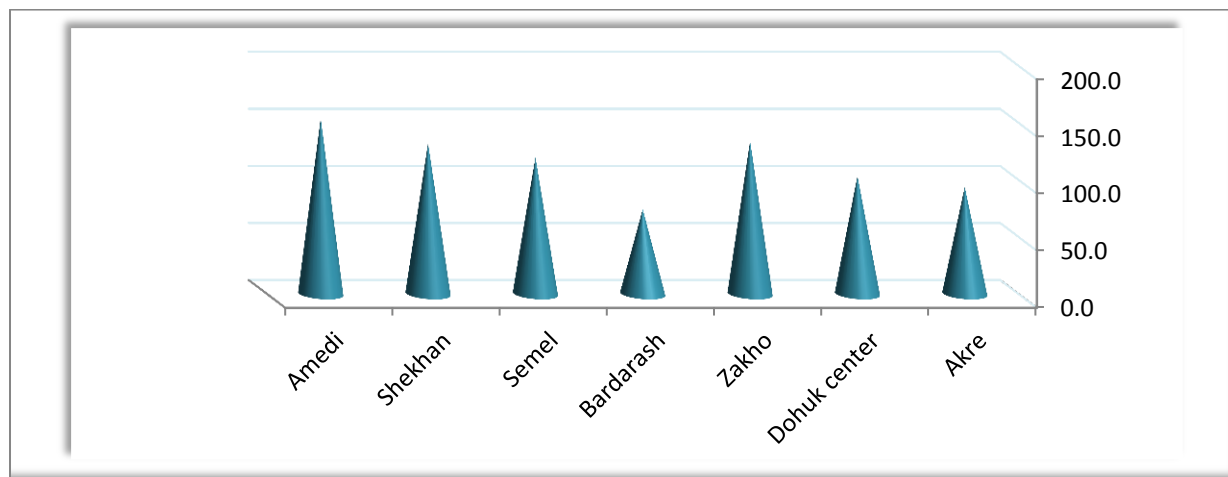


Table 39: the cost of barley production per donum in Duhok governorate 2012-2013 in 1000 ID

District	Tilling	Seed	Seeding	Irrigation	Fertilizer	Seed sterilizing	Weed control	Pests	Harvesting	Cleaning	Transport	Others	Total costs
Akra	13.4	20.2	8.7	0	21.3	0	2.7	0	13.7	1.2	6.7	4.7	92.6
Duhok Center	26.4	17.7	3	0	3.2	0	0	0	23.5	1	3.5	1.6	79.8
Zakho	19.8	22.2	12.3	0	31.7	1.2	2.8	0	20.2	1.1	4.5	5.5	121.3
Bardarash	7.9	31.6	8.1	0	12.2	0.3	2.4	0	11.5	0	2.3	2.4	78.6
Semel	11.6	32.2	11.5	0	45	2.6	21.8	0	13.4	5.6	11.7	0	155.4
Shekhan	11.6	27	12.2	0	24.2	2.9	1.9	0.8	10.4	0	2	0.4	93.5
Amede	31.8	20.6	10.7	0	5	5.4	3.6	0	57.5	45.7	10.4	6.1	196.7
Average Cost	17.5	24.5	9.5	0	20.4	1.8	5	0.1	21.5	7.8	5.9	2.9	116.8

Figure 35: the total cost of barley production per donum in Duhok governorate 2012-2013 in 1000 ID

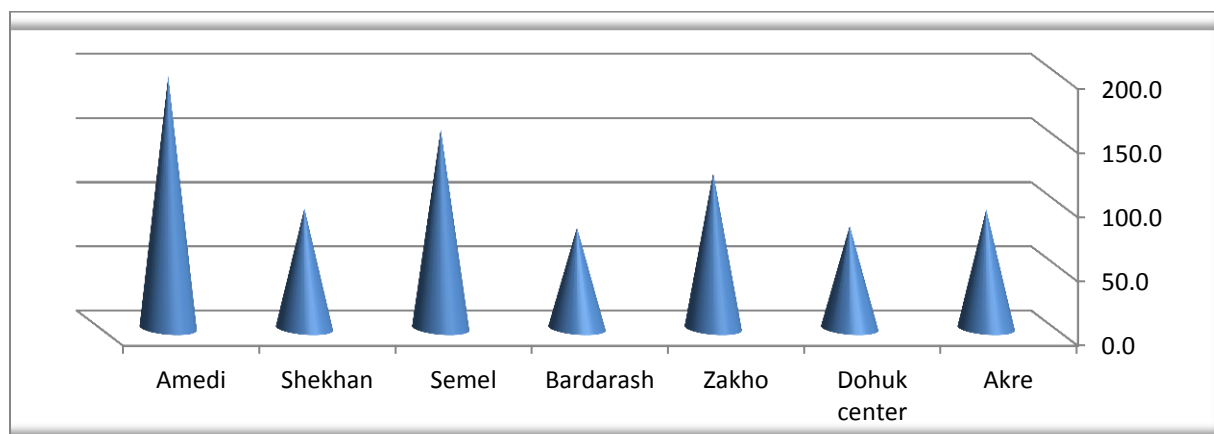


Table 40: the cost of wheat production per donum in Garmyan 2012-2013 in 1000 ID

District	Tilling	Seed	Seeding	Irrigation	Fertilizer	Seed sterilizing	Weed control	Pests	Harvesting	Cleaning	Transport	Others	Total cost
Kalar	14.7	23	2	0	0.4	0.9	0.1	0	12.8	0.5	3.8	2.6	60.8
Kfri	15.2	24.7	2.3	0.8	1.8	0.6	0.4	0.2	13.4	1.1	3	3	66.6
Khanaqen	14.3	25.1	2	2.1	7.9	0.6	1.3	0	13.4	0.2	3.1	3.3	73.4
Average Cost	14.7	24.3	2.1	0.9	3.3	0.7	0.6	0.1	13.2	0.6	3.3	3	66.9

Figure 36: the total cost of wheat production per donum in Garmyan for 2012-2013 in 1000 ID

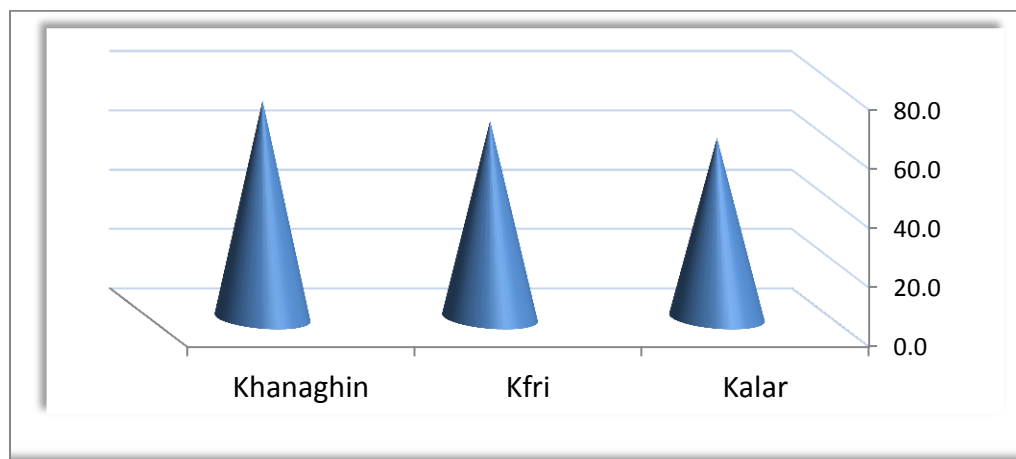
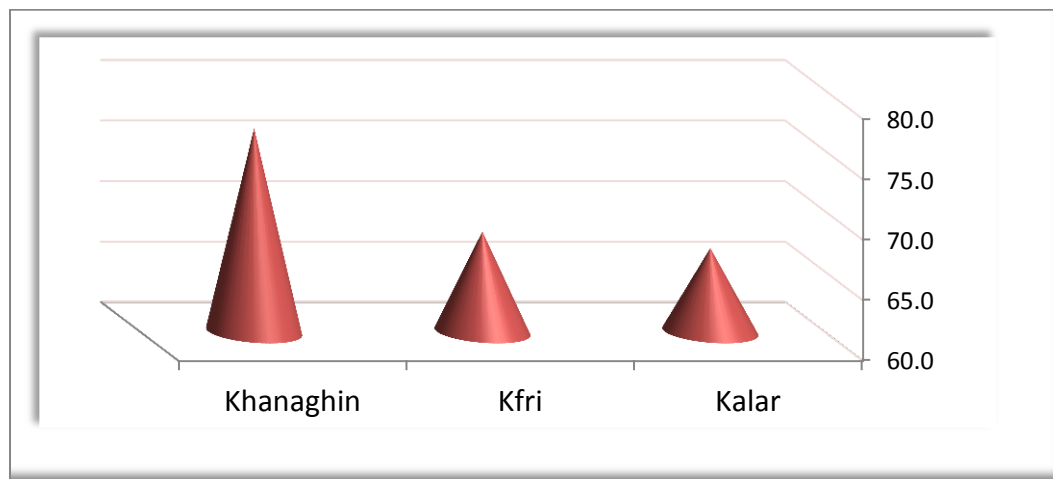


Table 41: Table 41: the cost of barley production per donum in Garmyan 2012-2013 in 1000 ID

District	Tilling	Seed	Seeding	Irrigation	Fertilizer	Seed sterilizing	Weed control	Pests	Harvesting	Cleaning	Transport	Others	Total costs
Kalar	15	26.6	2.2	0	1.9	0	0	0	14.2	0.1	4	3	66.9
Kfri	14.5	26.2	2.2	0.6	4.3	0	0.1	0	13.1	0.3	3	3.9	68.3
Khanaqen	14.1	24.8	2.3	3.1	7.6	0.3	0.6	0	15.5	0.9	3.6	4.2	76.8
Average Cost	14.5	25.9	2.2	1.2	4.6	0.1	0.2	0	14.3	0.4	3.5	3.7	70.7

Figure 37: the total cost of barley production per donum in Garmyan 2012-2013 in 1000 ID



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