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WAYS TO INCREASE THE ECONOMIC EFFICIENCY OF LEMON GROWING ON THE FARM

Submission Date: October 20, 2023, Accepted Date: October 25, 2023,

Published Date: October 30, 2023

Crossref doi: <https://doi.org/10.37547/ijmef/Volume03Issue10-07>

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ABSTRACT

The article describes ways to increase the economic efficiency of lemon cultivation on the farm. Meeting the demand of the country's population for food products and raw materials of industry depends primarily on the level of development and management of the agro-industrial complex and the agricultural network, which is the basis of this complex.

KEYWORDS

Employment, agricultural holdings, food industry, output, productivity, cost of production, gross income, net income, sales volume, revenue.

INTRODUCTION

Meeting the demand of the country's population for food products and raw materials of industry depends primarily on the level of development and management of the agro-industrial complex and the

agricultural network, which is the basis of this complex. Today, the President and our government are paying special attention to the issues of ensuring food safety, filling the table of the country's population with

food products, and fully satisfying the consumer demand with the fruits and vegetables, citrus fruits, apples, grapes and potato products grown in the country.

According to the information of the FAO, 15 million tons of lemons are harvested worldwide every year. In Uzbekistan, 60,000 tons of lemons are produced, 2,500 tons are sold abroad, and the export share is increasing year by year.

Today, the number of farms engaged in citrus fruits, especially lemons, is limited in our republic. This sector is mainly used by households and farms, and it has become a good source of income. Lemon is a type of fruit that is eaten all year round. This fruit is distinguished from other fruits by the fact that it yields throughout the year if it is well cared for. The demand for citrus fruits, especially lemons, remains high even though its market price is high compared to other fruits. In such a situation, one of the tasks of farms is to provide the population with citrus fruits by growing them on the territory of our country.

2. LITERATURE REVIEW:

The theoretical and methodological foundations of ways to increase the economic efficiency of lemon cultivation in the farm are based on the scientific works of scientists such as Gulyamov B.Kh., Islamov S.Ya., Normuratov I.T., Abdikayumov Z., Fakhrutddinov Z.

3. MATERIALS AND METHODS:

Citrus crops are highly valued in many countries of the world for their incomparable taste, vitamin richness,

aroma, ease of processing, storage and transportation, ease of cultivation and propagation, and many other advantages. Orange alone ranks first among all crops in the world in terms of popularity and gross cultivation.

In Uzbekistan, lemon seedlings are grown mainly by growing them in greenhouses or heated greenhouses, and then growing them on a large area. When growing seedlings in this way, especially when transplanting them, many plants die, and the costs of maintaining seedlings are increased.

In 2021, 60,000 tons of lemons were grown in 1,200 hectares of greenhouses in the Republic of Uzbekistan, of which 2,400 tons were exported.

Citrus fruits contain a large amount of vitamins, minerals, organic acids, and healing nutrients necessary for the human body. In particular, lemon is considered to be the most cultivated citrus plant in Uzbekistan, and it is one of the most valuable healing and invigorating fruits. The fruit contains about 2% sugar, 6–8% various acids (mainly citric acid), more than 1% pectin substances, about 0.5% various mineral salts, 60–90 mg vitamin C, certain amounts of A, B₁, B₂, There will be RR vitamins.

In medicine, lemon is used in the treatment of various diseases of the cardiovascular system, scurvy, tuberculosis, angina, metabolic disorders in the body, gout. In addition, RR group vitamins contained in lemons help lower blood pressure and prevent blood clots in the brain. In addition, one of its valuable

properties is the good preservation of vitamins contained in lemon fruits even when they are stored and processed for a long time.

Citrus crops are highly valued in many countries of the world for their incomparable taste, vitamin richness, aroma, ease of processing, storage and transportation, ease of cultivation and propagation, and many other advantages. Lemon alone ranks first among all crops in the world in terms of popularity and gross cultivation. It is no exaggeration to say that the demand for citrus fruits and their processed products is the most popular among all other fruit crops. Consequently, fresh lemon fruits and home-made unique juices have become one of the daily food products of the residents of many foreign countries. The distribution of citrus fruits in such a wide and valuable state is explained by their incomparable taste, vitamin richness, aroma, ease of processing, storage and transportation, not so complicated cultivation and reproduction, and a number of similar advantages.

Not all citrus fruits are grown in Uzbekistan, but the demand for citrus fruits and their processed products (juice, marmalade, jam, etc.) is increasing year by year. In connection with this, the approach to the cultivation of citrus crops in the conditions of our republic has changed radically, and residents have started to successfully grow citrus crops in their homesteads, as well as in greenhouses of farms.

Citrus crops are very important in the national economy. Lemon juice has long been used in the

medicine of the peoples of many countries for the treatment of atherosclerosis, tuberculosis and other diseases. Grapefruit juice is used to treat flu and heal wounds. It stimulates the secretory activity of digestive organs. The abundance of vitamin C in fruits makes them an excellent tool in the fight against scurvy.

Citrus fruits are widely used fresh, jam, jam, candied fruit, juice, marmalade are made from them, technical oils, pectin and citric acids are obtained. Especially orange juice is widely used as one of the main drinks on every table of the people of many foreign countries. In addition, citrus fruits are widely used in cooking.

Non-edible parts of citrus plants rich in essential substances - flowers, leaves, young branches, fruit peel - are widely used in the pharmaceutical and pharmaceutical industries. Their wood is also valued for making various materials. In addition, citrus crops are evergreen plants, so they are of great importance in terms of decorativeness and hygiene. They purify the air all year round, give people aesthetic pleasure with their beautiful flowers, leaves, dark green buds and very beautiful colored fruits that hang for a long time without shedding.

In our country, the cultivation of citrus crops in protected areas is one of the most promising areas of agriculture, although it requires a lot of material costs. Currently, thousands of hectares of land in Uzbekistan are reserved for the cultivation of citrus crops. Their yield is 250-450 centners per hectare.

TABLE 1

Forecast indicators of lemon production in the Republic of Karakalpakstan and regions in 2027-2030

№	The name of the areas	The area of the lemon grove to be built in 2023-2025, ha	Years				The harvest to be obtained in 2027-2030, tn	Years			
			2018	2019	2020	2021		2027	2028	2029	2030
1.	Republic of Karakalpakstan	33	6	8	9	10	1850	100	300	550	900
	regions:										
2.	Andijan	165	30	35	45	55	9204	510	1421	2683	4590
3.	Bukhara	200	35	45	55	65	10871	578	1697	3196	5400
4.	Jizzakh	150	30	35	40	45	8155	480	1337	2410	3927
5.	Kashkadarya	330	75	80	85	90	20044	1298	3448	5957	9342
6.	Navoi	150	30	35	40	45	8970	528	1471	2651	4320
7.	Namangan	175	35	40	45	55	10029	595	1639	2927	4868
8.	Samarkand	270	60	65	70	75	16867	1074	2877	5008	7909
9.	Surkhandarya	345	75	80	90	100	21426	1350	3587	6327	10162
10.	Sirdarya	44	7	10	12	15	2351	116	361	687	1188
11.	Tashkent	185	35	40	50	60	10614	606	1668	3103	5237
12.	Ferghana	160	30	35	45	50	9385	528	1471	2778	4608
13.	Khorezm	33	6	8	9	10	1854	100	301	551	902
Total		2240	454	516	595	675	131619	7861	21577	38829	63353

Table 2

Forecast indicators of lemon production in 2027-2030 by farmers, peasants and homesteads

№	The name of the areas	The area of the lemon grove to be built in 2023-2026, ha	Years				The harvest to be obtained in 2027 - 2030, tn	Years			
			2023	2024	2025	2026		2027	2028	2029	2030
1.	Republic of Karakalpakstan	28	5	7	8	8	1587	84	258	480	766
	regions:										
2.	Andijan	145	25	30	40	50	8001	427	1206	2325	4044
3.	Bukhara	148	25	33	40	50	8019	418	1242	2338	4022
4.	Jizzakh	120	25	30	30	35	6642	401	1134	1956	3150
5.	Kashkadarya	230	50	55	60	65	13977	875	2363	4127	6612
6.	Navoi	130	25	30	35	40	7726	443	1250	2280	3754
7.	Namangan	123	25	28	30	40	7090	430	1169	2043	3448
8.	Samarkand	218	50	53	55	60	13769	900	2381	4076	6411
9.	Surkhandarya	253	55	58	65	75	15765	1000	2636	4631	7498

10.	Sirdarya	34	5	8	9	12	1809	84	278	524	923
11.	Tashkent	148	28	32	40	48	8533	488	1342	2495	4208
12.	Ferghana	135	26	30	38	41	8013	460	1272	2382	3900
13.	Khorezm	28	5	7	8	8	1591	84	259	481	768
Total		1740	349	401	458	532	102522	6092	16789	30137	49504

Table 3

Forecast indicators of production and export of lemon products in the Republic of Karakalpakstan and regions in 2027-2030

№	The name of the areas	in 2027 — 2030		Including years							
				2027		2028		2029		2030	
		total crop	from that exportable crop	total crop	from that exportable crop	total crop	from that exportable crop	total crop	from that exportable crop	total crop	from that exportable crop
1.	Republic of Karakalpakstan	142	106	34	21	35	24	36	29	37	32
	regions:										
2.	Andijan	2710	2041	650	425	666	450	685	570	709	596
3.	Bukhara	1585	1174	380	247	390	265	401	315	415	347
4.	Jizzakh	500	397	120	84	123	95	126	104	131	114
5.	Kashkadarya	2523	1606	605	350	620	396	638	426	660	434
6.	Navoi	1230	963	295	190	302	226	311	261	322	286
7.	Namangan	1660	1342	398	262	408	298	419	329	434	453
8.	Samarkand	2068	1572	496	329	508	367	523	427	541	449
9.	Surkhandarya	9987	7603	2395	1560	2455	1748	2524	1945	2613	2350
10	Sirdarya	663	526	159	103	163	126	168	139	173	158
11	Tashkent	1393	994	334	219	342	249	352	198	364	328
12	Ferghana	3941	3053	945	620	969	688	996	849	1031	896
13	Khorezm	400	318	96	64	98	79	101	85	105	90
Total		28801	21695	6907	4474	7080	5011	7280	5677	7535	6533
Export share, %		75		65		71		78		87	

Increasing the productivity of citrus plants in Uzbekistan directly depends on the correct selection of varieties for local conditions. In connection with this, it is important to study citrus cultivars and hybrids in

depth and to choose their suitable forms for local conditions.

The specific conditions of growing citrus fruits in greenhouses require that the varieties grown in them have the following characteristics:

- high productivity and excellent quality of fruits;
- resistance to heat and direct sunlight;
- high resistance to cold;
- small size and absence of spines;
- late spring vegetation and quick ripening of fruits.

It is possible to select varieties of lemons and oranges that fully meet these requirements by planting from seeds and by acclimatization of old promising varieties in the method of vegetative and hybrid selection.

Targeted maintenance and selection of seedlings formed in new conditions allows obtaining a new variety with the necessary quality indicators that are stable and passed on to the next generations.

In this case, great attention is paid not to the quantity of seeds to be planted, but to the quality of seeds

selected from good varieties that are promising for this location.

When breeding new varieties of citrus varieties, cross-breeding of plants, their targeted care and careful selection of hybrid seed seedlings are the most effective and fast ways to produce new varieties with the desired characteristics in the first hybrid generation. In this case, the species are geographically distant and the more closely related the hybrid plants are, the higher the ability of hybrid seed seedlings to adapt to new environmental conditions.

Citrus fruits, including lemons, are very useful for the human body. It can be used not only for consumption, but also for industrial purposes. In the table below, based on many years of experience, I would like to give an overview of the regional varieties of lemons.

Table 4.

Regional varieties of lemon in Uzbekistan

Nº	The name of the zoned varieties of lemon	The length of the tree	Harvest year	Number of fruits, during the year	Fruit weight	Productivity
1.	Meyer	1,8-2,0 m	3-4 year	150-170 up to	65-70 gr	18-20 τ
2.	Tashkent	2,0-2,5 m	2-3 year	300 up to	100-150 gr	70 τ up to
3.	Yubeleiny	2,5-3 m	2-3 year	150-200 up to	800-1000 gr	80-100 τ up to

This table compares the productivity of regional lemon varieties grown in the climatic conditions of Uzbekistan. As can be seen from the table, the "Tashkentsky" and "Yubeleiniy" varieties of lemons are faster to harvest than the "Meyer" variety, and the yield is somewhat higher.

Therefore, before growing lemon fruit, it is necessary to grow fertile standard lemon seedlings to create lemon orchards.

CONCLUSION

I made the following conclusions on the topic of ways to increase the economic efficiency of lemon cultivation on the farm.

1. Citrus crops can be grown successfully in greenhouses in the conditions of our country. Lemon and tangerine are the most promising citrus crops.
2. Vegetative propagation of lemon plants is the most efficient, fast and economically profitable method.
3. By increasing the cultivation of lemon crops, it is possible to satisfy the demand of our people for these fruits with domestic products and reduce the volume of foreign imports.
4. Storage of citrus fruits in refrigerated warehouses at a temperature of 10°C and a relative humidity of 85-90% is the most optimal condition.
5. By expanding the processing of citrus fruits, our market can be filled with domestic products. The

production of juice, candied fruit and marmalade from citrus fruits is one of the most promising directions.

6. Since citrus plants are heat-loving, they are resistant to cold, they require a lot of useful warm temperature for fruiting, the growth period is quite long. Therefore, in our republic, citrus crops are grown in greenhouses and trenches.

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