



Agroindustrial complex: milestones for investment and export growth

A study by Viorel Chivriga, economic policy expert, IDIS Viitorul

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Abbreviations and acronyms

CIS – Community of Independent States EU-European Union

NBS – National Bureau of Statistics

AIPA – Agency for Intervention and Payments in Agriculture MAIA-Ministry of Agriculture and Food Industry

USD – US Dollar

MDL – Moldovan Lei

Ha – hectare

CN – Combined Nomenclature of Goods

Foreword

Agriculture in the Republic of Moldova, apart from providing a steady income to farmers and their families, plays an important socio-economic role. According to NBS data, the distribution of the employed population by economic activities in the second quarter of 2021-2022 is as follows: more than 50 percent of Moldovans work in the services sector. The second most important sector is agriculture, where 22.9 percent of the workforce is employed. Thus, agriculture, through some essential services, contributes to the development and sustenance of Moldovan society:

- By maintaining the central economic pillar of rural communities.
- By providing food and other important products for citizens.

Agricultural policies should ensure that farmers continue to provide long-term services by promoting the economic sustainability of Moldovan agriculture, including through socially inclusive actions such as support for small farmers and redistributed payments. In this respect, some concrete steps have been taken recently. Thus, the agricultural subsidy fund has increased from 1.1 billion in 2021 to 1.75 billion in 2022. The European Union has supported farmers in Moldova by increasing the export quotas for seven agricultural products, thus reducing the losses caused by the war in Ukraine. At the same time, Moldovan farmers have benefited from compensation for excise duty on diesel.

In this situation, reports infotag.md, according to data from the international conference "Asia Grains & Oils Conference in Kazakhstan 2022" in Astana, in July-August 2022, the Republic of Moldova was among the top five suppliers of wheat to the European Union. Thus, in the mentioned period, Ukraine delivered about 1.5 million tons of grain to the European market, followed by Great Britain with 379 thousand tons, Canada with 179 thousand tons, Moldova with 113 thousand tons and Serbia with 110 thousand tons. Food security must be one of Moldova's central policies. The "farm to consumer" strategy should lead to a sustainable domestic food system that ensures the needs of citizens while meeting quality, health and environmental standards.

Through this study, IDIS "Viitorul", represented by the expert Viorel Chivriga, conducted a comprehensive analysis focused on the identification of investment benchmarks and the examination of the most important exports of the agro-industrial complex that would lead to increased food security and the development of modern agriculture in the Republic of Moldova. Thus, according to the study, exports of plant products, despite all internal and external shocks in the period 2000-2021, increased 13 times from 2000 to 2021, recording in 2021 the highest value - 869,860.57 thousand USD. At the same time, imports of products from the section live animals as well as products of the animal kingdom, in the period 2000-2021, increased 21 times (from 10,744.50 thousand USD in 2000 to 225,490.35 thousand USD in 2021). In 2021, imports of products of this section exceeded exports by 6 times. The author comes up with solutions and recommendations to improve some negative trends in the examined area.

We hope that this research will bode well for all those interested in developing modern agriculture and strengthening food security, and at the same time we believe that we are thereby contributing to the promotion of efficient food production in the interests of farmers, consumers and the environment.

Liubomir Chiriac,
Executive Director
IDIS "Viitorul"

Chapter I. External trade in agri-food products

1.1 Export of agri-food products

In the export structure of Moldova, exports of agri-food products traditionally predominate. They account for about 50% of total Moldovan exports. At present, the majority of trade transactions in agri-food products are destined for EU countries. Exports of agri-food products are not stable and depend on external and internal factors. For example, with the cessation of exports of plant and animal products and alcoholic beverages to the Russian Federation in 2005-2006, their share in total Moldovan exports fell sharply from 61% in 2004 to 39.9% in 2007.

The sharp drop in exports of agri-food products has been unforeseen and is largely due to a lack of flexibility in the activities of both producers and exporters of agri-food products and the Moldovan authorities. The bans imposed by the Russian Federation have "lowered" exports of *food products, alcoholic and non-alcoholic beverages, and tobacco* to 2002 levels. It is significant that, unlike the products in the nominated section, plant and animal products have been partially demanded for export to other countries. In 2020, in a way specific to the years impacted by natural hazards, exports of plant and animal sector products showed clear declines.

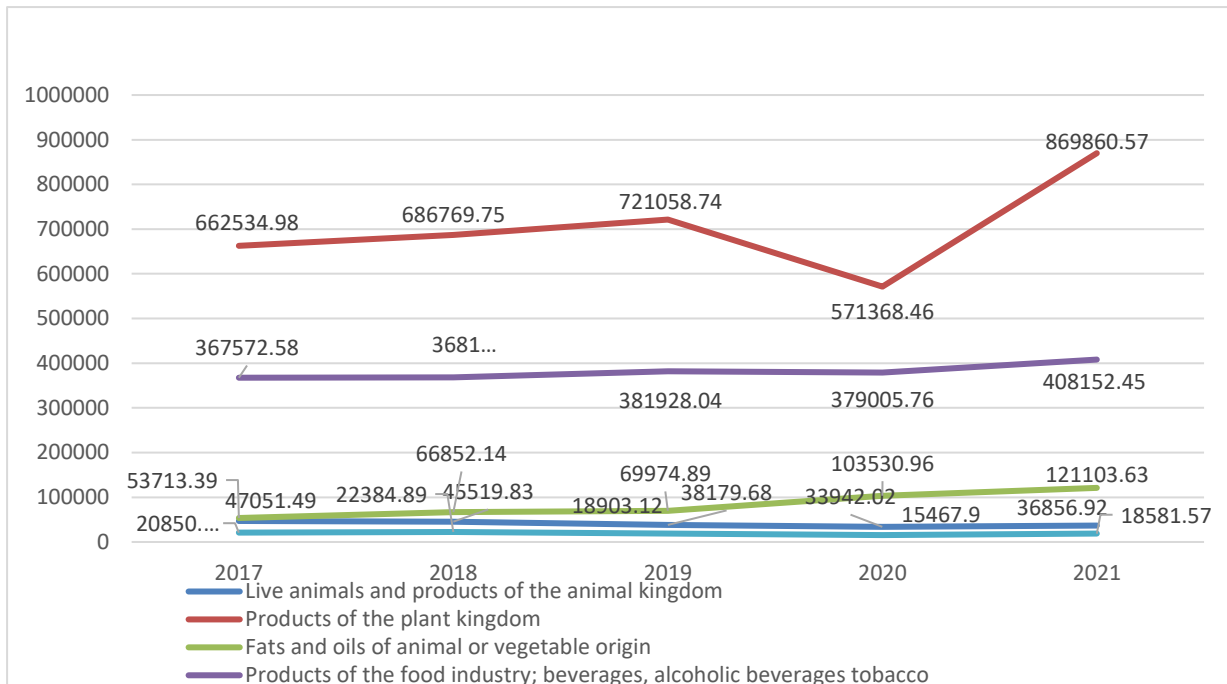
Exports of products of the *live animals and animal products* section are unstable and have recorded noticeable reductions during the period 2000-2009 from 22,793.60 thousand USD in 2000 to 9,145.80 thousand USD in 2009 (except 2003 - 28,598.10 thousand USD)¹. Subsequently, they have been increasing, with the maximum value being recorded in 2014-59,732 thousand USD.

In 2021, exports of products from this section reached USD 36 856.92, of which USD 11 621.48 to CIS countries (Russian Federation, Uzbekistan, Azerbaijan) and USD 10 560.57 to EU countries (Italy, Romania, Slovakia, France, Czech Republic).

Exports of plant products in the period 2000-2021 increased 13 times, recording in 2021 the highest value - 869,860.57 thousand USD. Exports to EU countries amounted to 358,197.33 USD (Romania-137,480.75 thousand USD, Bulgaria-49,670.55 thousand USD, Greece- 32,988.95 thousand USD, Italy-31,576.13 thousand USD, Germany-22,547.31 thousand USD), and in the CIS states 154,184.48 USD (Russian Federation-125,107.08 thousand USD, Belarus-14,634.22 thousand USD, Ukraine-12,011.80 thousand USD).

Figure 1. Exports of agri-food products, thousand USD.

¹ According to NCM.



Source: NBS

Exports of products of the *animal or vegetable fats and oils* section have experienced fluctuating trends over the period 2000-2021 from 3,868.20 thousand USD to 121,103.63 thousand USD. In the last four years, they have grown stably, recording an increase of more than 2 times compared to 2017 (225%). In 2021, the exports of these products recorded 121,103.63 thousand USD, of which to EU countries-106,713.42 thousand USD (Germany-51,393.28 thousand USD, Italy- 23,345.40 thousand USD, Portugal- 15,902.94 thousand USD, Romania- 13,369.37 thousand USD and CIS states-35.25 thousand USD). Exports of *raw pelts, finished leather, fur pelts, and fur products* recorded the highest levels in 2004 and 2005, respectively 77,887.80 thousand USD and 71,574.20 thousand USD. In 2016-2021, they recorded values between 15,467.90 thousand USD and 23,930.86 thousand USD.

Exports of products from the section *products of the food industry; beverages, alcoholic beverages, and tobacco* in the period 2002-2021 have registered an increase of only 30%, the maximum value of exports being recorded in 2021 - 408,152.45 thousand USD. In 2021, these products were exported to the EU in the amount of 173,652.54 thousand USD (Romania-76,746.06, Poland- 29,949.29 thousand USD, Germany-18,369.00 thousand USD, Czech Republic-12,074.32 thousand USD), and to the CIS, in the amount of 89,159.60 thousand USD (Belarus-37,725.98, Russian Federation-24,236.86, Ukraine-16,376.99, Kazakhstan-8,123.39 thousand USD).

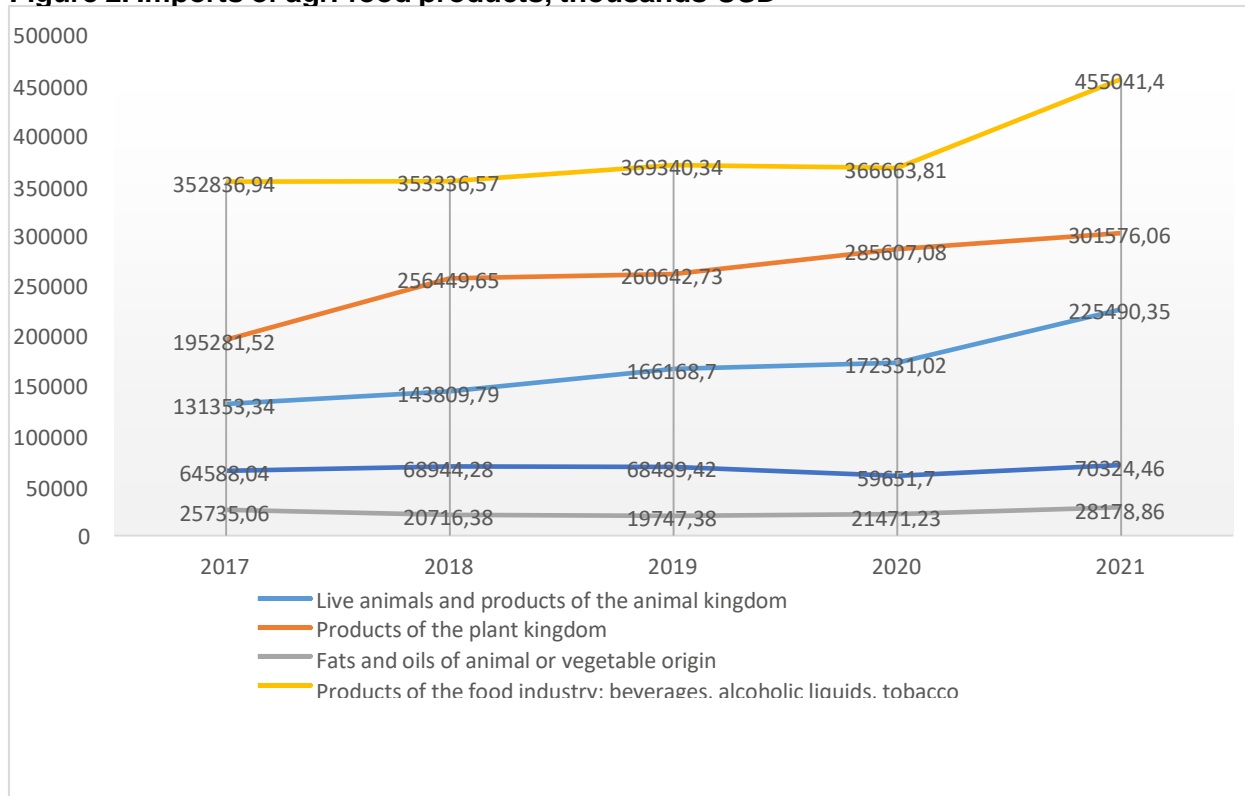
1.2. Import of agri-food products

Imports of agri-food products into the Republic of Moldova have increased with the disintegration of the old agri-food system inherited in the 1990s. Imports of products from the main sections of agri-food commodities, according to the Combined Nomenclature of Goods, are growing freely. Thus, imports of products from the section *live animals and products of the animal kingdom* in the period 2000-2021, increased 21 times (from 10,744.50 thousand USD in 2000 to 225,490.35 thousand USD in 2021). In 2021, imports of products from this section exceeded exports 6 times. Imports from EU states amounted to 116,923.96 thousand USD

(Poland-22,632.93 thousand USD, Romania-21,414.71 thousand USD, Germany-17,860.95 thousand USD, Spain-12,966.51 thousand USD), and from CIS states-68,010.36 thousand USD (Ukraine-53,699.71 thousand USD, Belarus-10,537.27 thousand USD, Russian Federation-3,743.04 thousand USD).

Imports in the *plant products* section have been increasing, with the highest values being recorded in the period 2016-2021, characterized by a stable upward trend (171,623.58 thousand USD in 2016 and 301,576.06 thousand USD in 2021). Imports of products in this section in 2021 were about 3 times lower than exports. Imports from EU states amounted to 124,162.08 USD, mainly from Germany, Romania, France, and the Kingdom of the Netherlands, and from CIS states amounting to 56,278.74 USD (Ukraine, Russian Federation, Belarus, Kazakhstan, Uzbekistan).

Figure 2. Imports of agri-food products, thousands USD



Source: NBS

Imports of products from the section *products of the food industry, beverages, alcoholic beverages, and tobacco* are higher than exports, the growth trend being stable over the last 7 years, from 272,182.30 thousand USD in 2015 to 455,041.40 thousand USD in 2021. In 2021, the value of exports to the EU amounted to 202,184.28 thousand USD (Romania-53,323.50 thousand USD, Germany- 25,670.96 thousand USD, Poland- 23,086.25 thousand USD, Italy- 20,471.64), and CIS- 204,199.26 thousand USD (Ukraine-128,964.66 thousand USD, Russian Federation- 69,867.55 thousand USD). Imports of products from the section *animal or vegetable fats and oils* are insignificant and in 2021 they registered 28.178,86 thousand USD, of which in the CIS countries - 19. 738,75, in the EU countries - 7.740,89 thousand USD.

Chapter II. External trade of vegetal products

2.1. The plant sector

The plant sector is characterized by low and very low yields of most agricultural crops compared to European countries. The general trends in average yields and total production are also influenced by the inefficient use of production resources, both natural as well as human and material. The crop sector is also vulnerable to natural hazards. For example, in the years 2000, 2003, 2007, 2011, 2012, 2015, 2020, and 2022 there was lacking an effective mechanism to reduce the impact of risks in agriculture (In 2021, 0.75 percent of the area of land used for agriculture was insured)². Another destabilizing factor for the sector is the fragility of the rural market, which is in its initial stage of formation (in the Republic of Moldova, the area of land for agricultural use is 2,260,815 ha. The number of landowners - 1,272,140)³. The Moldovan agricultural market is characterized by instability, strong price fluctuations, lack of balance between demand and supply of vegetal products, and frequent threats to the country's food security.

In order to reduce the existing gap between the vegetal crop yields and yields of cereal, technical and vegetable crops obtained regionally – on one side, and the average national yields – on the other, and to further increase them to the regional level, it is necessary to modernize these branches by technically equipping agricultural entities, extending irrigation in the region, optimizing the structure of agricultural establishments and increasing the range of agricultural crops grown in the area, creating modern and qualitative input supply units for agriculture and those for collecting agricultural products, developing small-scale rural industry. No less important is the expansion of agricultural consulting, financial crediting, and agricultural marketing services in the whole country, on a larger scale.

2.2. Export of plant products

In 2022, the Council of Europe approved a one-year increase in export quotas for a number of Moldovan agricultural products. Moldovan agricultural producers will be able to export significantly more agricultural products to the EU market during the year without paying customs duties. Export quotas have been increased, and some have even doubled: plums - from 15,000 to 40,000 tonnes (+25,000 tonnes); grapes - from 20,000 to 58,000 tonnes (+38,000 tonnes); apples - from 40,000 to 80,000 tonnes (doubling); grape juice - from 500 to 1,000 tonnes (doubling); sweet cherry - from 1,500 to 3,000 tonnes (doubling); tomatoes - from 2,000 to 4,000 tonnes (doubling); garlic - from 220 to 440 tonnes (doubling)⁴.

Cereals predominate in exports of plant products. In 2016-2021, the export of these products, with the exception of 2020, increased steadily from 1,139 thousand tonnes in 2016 to 1,531 thousand tonnes in 2021. The value of cereals exports in 2021 amounted to 367,732 thousand USD, which is significantly higher than the other sections pertaining to the plant kingdom. In 2021, exports of cereals were mainly operated in Romania-34,089.90 thousand USD, Greece- 32,364.05 thousand USD, Italy- 28,780.96 thousand USD, Cyprus- 12,981.50

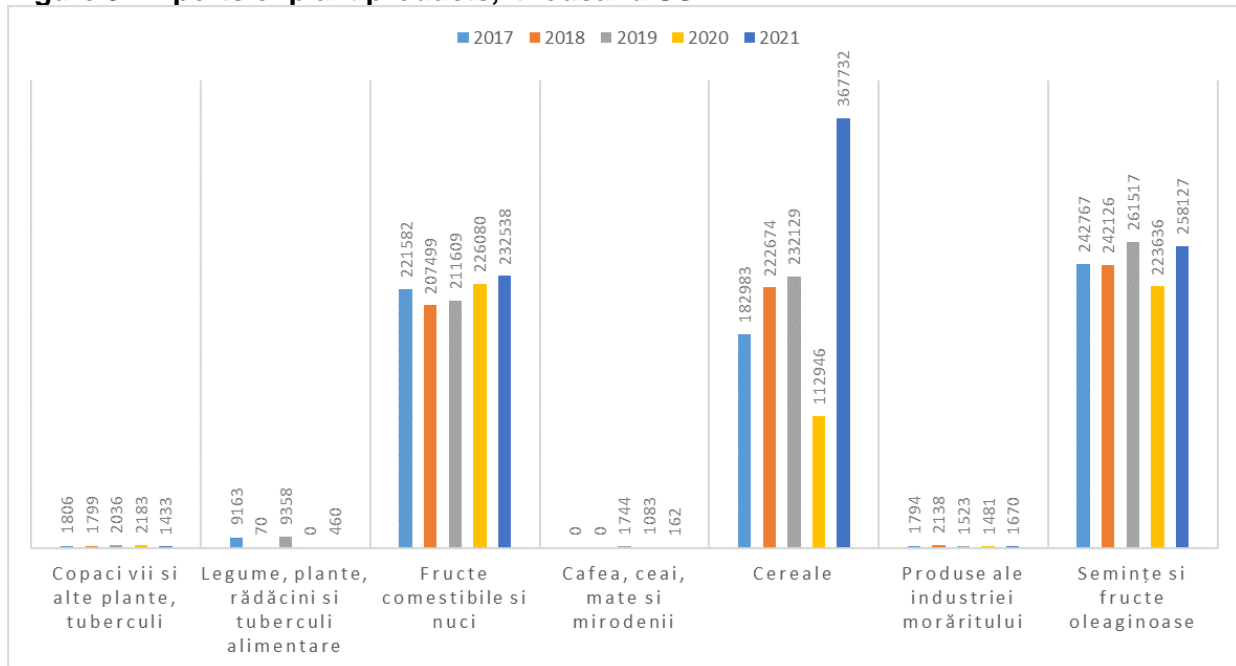
² In 2021, the subsidy mechanism provided for the subsidization of 2730.8 ha of wheat, 493 ha of barley/rape, 220 ha of sugar beet, 7499.6 ha of sunflower, 276 ha of soya, 3348 ha of maize and 2380.6 ha of multiannual crops. Livestock was also provided for by species: 14998 cattle, 552 pigs, 32167 sheep, 11287 goats, 97173 poultry, 1228 rabbits, and 533 bee hives. The value of insured risks was 67.7 million lei and the value of subsidies requested by insurance companies was 47.4 million lei.

³ GD no. 391 of 15-06-2022 on the approval of the Land Cadastre as of 1 January 2022.

⁴ <https://www.moldpres.md/ru/news/2022/07/18/22005337>

thousand USD, Belarus-5,134.54 thousand USD. Exports of products in the *oilseeds and oil fruits* section are on an upward trend, with the highest values coming from 2021-258,127.13 thousand USD. The increase in exports of these products is largely due to the increase in exports of sunflower seeds. In 2021, exports of oilseeds and oil fruits were mainly operated in Romania-47,986.33 thousand USD, Bulgaria- 47,986.33 thousand USD, Poland- 6,815.08 thousand USD, Ukraine- 8,223.60 thousand USD.

Figure 3. Exports of plant products, thousand USD



Source: NBS

A significant share in the export of products of the plant kingdom is accounted for by *the edible fruits and nuts section*, which in the period 2017-2021, recorded 223,635.76 - 258,127.13 thousand USD or 446-478 thousand tons. It is necessary to mention, that the quantities of fruit produced in 2018, 2019, and 2021 are more than 2 times higher than the production recorded between 2000 and 2013. In 2021, exports of edible fruits and nuts were operated mainly in the Russian Federation-121,258.98 thousand USD, Germany- 17,800.26 thousand USD, Romania-17,520.64 thousand USD, France- 15,037.24 thousand USD, Belarus- 8,223.60 thousand USD, Austria- 5,894.68 thousand USD.

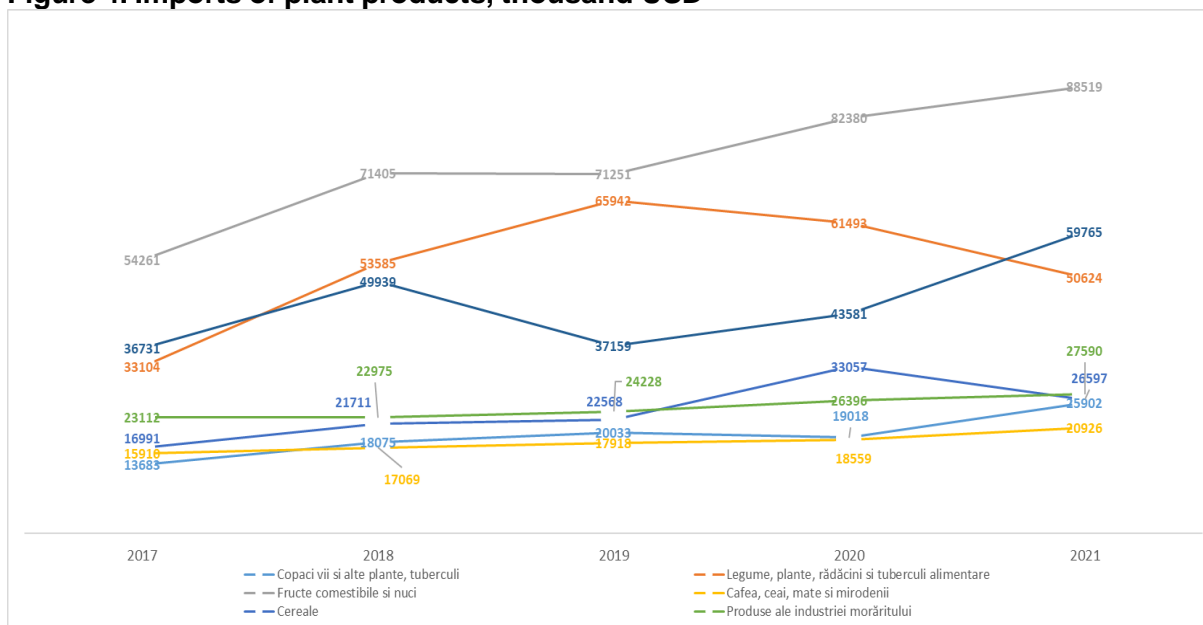
2.3. Import of plant products

Of the import of products of the plant kingdom a higher share of products is attributed to *edible fruits and nuts; cereals; seeds, oil fruits; vegetables, plants, roots, and tubers*. During the period 2017-2021, imports of edible fruits and nuts marked values ranging between 54,260 - 88,519.27 thousand USD or quantities of 35-65 thousand tons. Imports are several times lower than exports.

Imports of cereals recorded 83-131 thousand tons with a value of 16,990.55-33,056.67 thousand USD. Imports of seeds and oil fruits marked 36,731.38-59,765.10 thousand USD. Imports of cereals in 2021 were about 18 times. In 2021, imports from EU states amounted to 18,278.11 thousand USD (Romania - 6,303.68 thousand USD, Hungary- 6,148.98 thousand USD, France-3,931.91 thousand USD), and from CIS states-4,083.47 thousand USD (Ukraine- 2,732.22 thousand USD, Russian Federation-1,345.25 thousand USD).

Imports of products of the vegetables, plants, roots, and tubers section recorded 33,103.89-65,942.01 thousand USD, being about 8-9 times higher than exports.

Figure 4. Imports of plant products, thousand USD



Source: NBS

2.4. Balance of stocks of crop products

The level of coverage of domestic demand for cereals, including wheat, in the period 2012-2021 exceeds 100%. The exception is 2012 and 2020, when severe droughts were recorded. Cereal production ranged from 1,190 (wheat - 495 thousand tonnes) to 4,651 thousand tonnes (wheat-1565 thousand tonnes). Export volumes ranged from 141-1,531 thousand tonnes (wheat-73-887 thousand tonnes). The main trading markets are Romania, Russia, Germany, Italy, and Turkey.

The areas planted with wheat in the period 2012-2020 amounted to 311-371 thousand ha and yielded 16-37 quintals/ha. Wheat yields are well above the use in different categories: export, seed, fodder, processing for non-food purposes, losses, and personal consumption by the population. Imports are well below exports. Significant shares of existing resources go to exports, personal consumption by the population, and consumption for the livestock sector.

Tab. 1. Wheat stock balance and utilization, thousand tonnes

Elements of balance	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Resources										
Production	495	1.009	1.102	922	1.293	1.251	1.163	1147	570	1565
Import	106	89	66	68	66	79	75	66	26	26
Change in stocks	116	-53	-4	26	-33	13	-4	61	206	-43
Total resources	717	1.045	1.164	1.016	1.326	1.343	1.234	1.274	802	1548
Utilization										
Export	73	327	473	326	675	683	511	564	152	887
Seeds	80	83	83	78	76	82	77	76	73	71
Fodder	88	194	177	189	194	192	198	176	123	121

Processing for non-food purposes	-	2	0,4	-	-	-	-	-	0,0	0,0
Losses	6	9	6	4	8	5	5	5	4	4
Personal consumption of the population	470	430	425	419	373	381	443	454	450	466
Total utilization	717	1.045	1.164	1.016	1.326	1.343	1.234	1.274	802	1548,4
Level of self-sufficiency, %	76,9	140,4	159,4	133,7	198,5	189,6	160,8	161,6	87,7	236,5

Source: NBS

The level of coverage of the domestic demand for maize in the period 2012-2021 exceeds 100%. The exception is 2012 and 2020 when severe droughts were recorded. The areas established in 2012-2020 amounted to 466-546 thousand ha and yielded 12-43 quintals/ha. Maize yields in 2012-2021 ranged from 572 - 2793 thousand tonnes. Export volume ranged from 41 - 490 thousand tonnes. Yields are well above the use in different categories: export, seed, fodder, processing for non-food purposes, losses, and personal consumption by the population. Imports are well below exports. Significant shares of existing resources go to fodder and exports.

Tab. 2. Maize stock balance and use, thousand tonnes

Elements of balance	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Resources										
Production	572	1.419	1.556	1.077	1.392	1.773	2.074	2130	785	2793
Import	7	3	9	9	11	9	14	13	44	17
Change in stocks	613	-358	-347	156	61	-224	-108	-128	906	-1032
Total resources	1.192	1.064	1.218	1.242	1.464	1.558	1.980	2.014	1.735	1778
Utilization										
Export	41	134	426	242	256	287	587	738	450	490
Seeds	12	12	12	12	19	11	11	12	12	11
Fodder	1.098	859	730	942	1.140	1.214	1.344	1229	1240	1232
Processing for non-food purposes	6	10	-	-	-	-	0,0	0,1	0,1	2
Losses	13	18	19	15	12	6	6	7	5	16
Personal consumption of the population	22	31	31	31	37	40	32	29	28	27
Total utilization	1.192	1.064	1.218	1.242	1.464	1.558	1.980	2.014	1.735	1778
Level of self-provisioning, %	49,7	152,6	196,5	107,7	115,3	139,5	148,9	166,8	61,1	216,8

Source: NBS

The level of coverage of the domestic demand for barley in the period 2012-2021 exceeds 100%. The exception were 2012 and 2020, when severe droughts were recorded. Barley production varied between 186 - 256 thousand tonnes. Areas established in 2012-2020 amounted to 53-104 thousand ha and yielded 13-32 quintals/ha. Export volumes ranged from

27 - 156 thousand tonnes. Yields are well above the use in different categories: export, seed, feed, processing for non-food purposes, losses, and personal consumption by the population. Imports are well below exports. Significant shares of existing resources go to exports, fodder, processing for non-food purposes, seeds, and personal consumption by the population.

Tab. 3. Barley stock balance and use, thousand tonnes

Elements of balance	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Resources										
Production	118	218	221	179	256	249	175	168	107	253
Import	28	22	24	21	19	22	22	22	24	26
Change in stocks	29	-27	-6	17	-34	22	26	0	18	10
Total resources	175	213	239	217	241	293	223	190	148	289
Utilization										
Export	27	125	99	107	114	165	94	54	21	151
Seeds	18	20	17	17	15	15	11	11	11	10
Fodder	102	42	94	67	87	85	92	100	90	94
Processing for non-food purposes	26	21	21	18	16	18	15	16	17	19
Losses	1	1	2	2	2	1	1	1	0,9	5
Personal consumption of the population	1	4	6	6	7	9	10	8	9	9
Total utilization	175	213	239	217	241	293	223	190	148	289
Level of self-sufficiency, %	79,7	249,3	158,0	162,5	201,8	194,9	136,0	123,7	83,8	184,1

Source: NBS

The level of coverage of the internal market demand for vegetable products in the period 2012-2021 exceeds 100%. The exception is 2012. Production of vegetables ranged from 16 - 69 thousand tonnes. The areas established in 2012-2020 amounted to 20-41 thousand ha and yielded 7-20 quintals/ha. Export volumes were unstable, with the highest levels recorded in 2019-27 thousand tonnes. Yields are well above the use in different categories: export, seed, fodder, processing for non-food purposes, losses, and personal consumption by the population. Imports are well below exports. Significant shares of existing resources go to exports, fodder, seeds, and personal consumption by the population. Personal consumption accounts for about 30% of the production of leguminous products.

Tab. 4. Balance of vegetable stock and use, thousand tonnes

Elements of balance	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Resources										
Production	16	23	31	23	39	69	46	51	27	39
Import	1	0,0	1	1	1	2	2	1	2	1
Change in stocks	4	-4	-1	0,0	-4	-12	4	3	-0,1	-10
Total resources	21	19	31	24	36	59	52	55	29	30
Utilization										
Export	0,0	0,0	0,0	3	12	24	23	27	4	7
Seeds	3	3	3	5	5	5	7	5	4	4

Fodder	6	5	4	3	6	10	6	7	5	2
Processing for non-food purposes	-	-	-	-	-	-	-	-	-	-
Losses	1	1	1	1	2	3	2	2	0,4	1
Personal consumption of the population	11	10	23	12	11	17	14	13	16	16
Total utilization	21	19	31	24	36	59	52	55	29	30
Level of self-sufficiency,%	76,2	121,1	101,0	110,4	167,5	196,7	156,8	108,6	111,7	168,8

Source: NBS

The level of coverage of domestic demand for sunflower seed in the period 2012-2021 exceeds 200%. The exception is 2012, when the level of self-supply was 143%. Sunflower seed production ranged from 296 to 960 thousand tonnes. Areas established in 2012-2020 were 299-388 thousand ha and yielded 10-23 quintals/ha. Export volumes were high, with the highest levels recorded in 2017-2019, over 500 thousand tonnes. The yields are well above the use in different categories: export, seeds, fodder, processing, losses, and personal consumption of the population. Imports are well below exports. Significant shares of existing resources go to exports and processing. In 2021, processing accounted for about 30 percent of total production.

Tab. 5. Sunflower seed stock balance and use, thousand tonnes

Elements of balance	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Resources										
Production	296	505	547	485	677	804	789	811	493	960
Import	1	0,3	3	4	6	5	3	5	5	21
Change in stocks	22	-75	-72	99	-53	-118	33	83	112	-360
Total resources	319	430	478	588	630	691	825	900	610	621
Utilization										
Export	113	275	248	366	446	521	526	577	381	303
Seeds	2	2	3	2	2	2	2	4	3	2
Fodder	3	4	2	2	3	3	3	5	4	3
Processing	193	139	213	210	170	155	282	301	211	300
Losses	4	5	7	3	4	5	8	8	6	9
Personal consumption of the population	5	5	5	5	5	5	4	4	4	4
Total utilization	319	430	478	588	630	691	825	900	610	621
Level of self-sufficiency,%	143,8	325,8	237,4	217,9	368,7	473,1	264,2	251,9	215,7	301,8

Source: NBS

The level of coverage of domestic demand by potato production in the period 2012-2021 is below 100%. Potato production varied between 182 - 268 thousand tonnes. Areas established in 2012-2020 amounted to 19-25 thousand ha and yielded 72-118 quintals/ha. The export volume was tiny, between 0.1-8 thousand tonnes. The crops are mainly used for public consumption and seed. Imports are much higher than exports. Around 80-90 percent of potato production is used for personal consumption.

Tab. 6. Potato stock balance and use, thousand tonnes

Elements of balance	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Resources										
Production	182	240	268	158	214	197	175	175	172	218
Import	30	33	37	45	49	57	70	79	62	41
Change in stocks	69	-5	-18	71	-10	4	14	14	18	1
Total resources	281	268	287	274	253,0	258	259	268	251	260
Utilization										
Export	8	1	8	8	0,2	1	0,1	0,4	0,5	4
Seeds	62	57	56	59	51	48	46	46	54	52
Fodder	6	5	4	5	4	5	3	6	2	3
Processing	-	-	-	-	-	-	-	-	-	-
Losses	19	18	11	12	9	10	12	15	3	3
Personal consumption of the population	186	187	208	190	189	194	198	201	193	198
Total utilization	281	268	287	274	253	258	259	268	251	260
Level of self-provisioning, %	66,6	89,9	95,8	59,4	84,7	76,7	67,5	65,3	68,5	85,1

Source: NBS

The level of coverage of the internal market demand for vegetables in the period 2012-2021 does not exceed 100%. The exception was in 2013, when the level of self-sufficiency was 102.7%. Vegetable production varied between 231 and 360 thousand tonnes. The export volume was insignificant, the highest levels were recorded in 2012, 2013, and 2016, over 40 thousand tons. Exports are lower than imports. A significant share of the existing resources goes to the personal consumption of the population.

Tab. 7. Vegetable stock balance and utilization, thousand tonnes

Elements of balance	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Resources										
Production	231	291	327	246	294	310	283	307	227	232
Import	51	47	58	55	57	42	66	76	76	63
Change in stocks	17	-11	-17	22	-16	0,1	5	4	8	22
Total resources	299	327	368	323	335	352	354	388	311	316
Utilization										
Export	48	43	22	29	41	32	26	29	21	24
Seeds	6	6	5	5	5	6	5	5	7	5
Fodder	10	16	16	11	13	15	11	11	3	4
Losses	9	11	12	9	11	11	9	11	7	7
Personal consumption of the population	226	251	313	269	265	288	302	332	273	275
Total utilization	299	327	368	323	335	352	354	388	311	316
Level of self-provisioning, %	92,4	102,7	94,7	83,7	99,8	96,9	86,3	85,5	78,2	79,0

Source: NBS

The level of coverage of the internal market demand with fruit in the period 2012-2021 exceeds 200%. The exception is 2015-196.1%. In 2021, the area of fruit, nut, and fruit bush plantations amounted to 139 thousand ha, out of 114 thousand ha in bearing, the overall harvest marked

876 thousand tons, and the average productivity-75 quintals/ha. Fruit yields ranged between 380-894 thousand tonnes. Export volume was increasing, the highest level was recorded in 2019-478 thousand tons.

Among the fruit trees are noted:

- Apple trees with an area of 53.3 thousand ha, of which harvest-48.5 thousand ha, with an average productivity of 132.3 quintals per ha and an overall harvest of 647 thousand tonnes.
- Pear trees with an area of 2.8 thousand ha, of which 2.3 thousand ha produce a harvest, with an average yield of 17.9 quintals per ha and an overall harvest of 5.1 thousand tonnes.
- The 1.2 thousand ha of juniper trees, of which 1 thousand ha are harvested, with an average yield of 25 quintals per ha and an overall harvest of 2.7 thousand tonnes.
- Grapevines with an area of 4.5 thousand ha, of which 3.7 thousand ha are harvested, with an average yield of 23.5 quintals per ha and an overall harvest of 9.1 thousand tonnes.
- Cherry trees with an area of 5.3 thousand ha, of which 4.1 thousand ha are harvested, with an average productivity of 19 quintals per ha and an overall harvest of 10.2 thousand tonnes.
- Apricots with an area of 4.4 thousand ha, of which 3.6 thousand ha are harvested, with an average yield of 22.6 quintals per ha and an overall harvest of 8.7 thousand tonnes.
- Peaches and nectarines with an area of 5.6 thousand ha, of which 5.2 thousand ha are harvested, with an average productivity of 34.1 quintals per ha and an overall harvest of 18.5 thousand tonnes.
- Plums with an area of 21.3 thousand ha, of which 19.6 thousand ha are harvested, with an average yield of 68.8 quintals per ha and an overall harvest of 136.1 thousand tonnes.
- Walnuts with an area of 35.0 thousand ha, of which 21.8 thousand ha are harvested, with an average productivity of 7.5 quintals per ha and an overall harvest of 18.4 thousand tonnes.
- Raspberries with an area of one thousand ha, all of them harvested, with an average yield of 49.7 quintals per ha and an overall harvest of 5.1 thousand tonnes.
- Strawberries with an area of 1.9 thousand ha, of which 1.8 thousand ha are being harvested, with an average productivity of 70.3 quintals per ha and an overall harvest of 12.8 thousand tonnes.
- Currants with an area of 0.5 thousand ha, of which 0.4 thousand ha are being harvested, with an average productivity of 9.3 quintals per ha and an overall harvest of 0.4 thousand tonnes.
- Gooseberries with an area of 0.1 thousand ha, with average productivity of 4.6 quintals per ha.
- Blackberries with an average yield of 24.8 quintals per ha and an overall harvest of 0.1 thousand tonnes.
- White sea buckthorn with an area of 0.1 thousand ha, with average productivity of 8.8 quintals per ha.
- Aronia (black chokeberry) with a harvested area of 0.2 thousand ha, with an average yield of 8.2 quintals per ha.

Yields are well above utilization in different categories: export, fodder, processing for non-food purposes, losses, and personal consumption by the population. Imports are much lower than exports, about 10 times lower. Significant shares of existing resources go to exports, fodder, seeds, and personal consumption by the population. Personal consumption by the population accounts for about 30% of fruit production and exports for 2/3-50%.

Tab. 8. Fruit (including pomelos and nuts) stock balance and use, thousands of tonnes

Elements of balance	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
Resources											
Production	380	419	497	486	596	666	894	846	665	876	
Import	62	61	61	54		40	46	65	63	35	41
Change in stocks	-16	49	-20	4		-16	-12	-212	-118	34	-142
Total resources	426	529	538	544		620	700	747	791	734	775
Utilization											
Export	271	370	295	288		319	446	413	478	421	436
Fodder	1	1	1	2		1	1	1	1	0,1	0,3
Processing for non-food purposes	26	29	34	32		39	43	58	55	43	57
Losses	6	4	6	5		4	3	9	8	9	9
Personal consumption of the population	122	125	202	217		257	207	266	249	259	274
Total utilization	426	529	538	544		620	700	747	791	734	775
Level of self-provisioning, %	245,2	263,5	205,0	196,1		205,8	262,3	267,9	270,2	212,7	258,0

Source: NBS

The Republic of Moldova is currently one of the world's top ten apple exporters, with an annual production of over 800 thousand tons, obtained in fruit plantations with an area of over 56 thousand hectares of orchards, of which about 20% are super-intensive. Moldovan apples from the 2021 harvest were exported to 29 countries, while fruit from the previous year's harvest was delivered to only 9 countries in the world.

At the same time, if earlier at least 98% of Moldovan apples were delivered to the Russian market, then since the beginning of this year, the share of this direction in the country's export flow for the first time in many years has dropped below 90%. In just a few months of this year, Moldovan apple exports to Persian Gulf countries rose from zero to 4,000 tonnes. Similar dynamics were shown by the supply of these fruits to Romania, EastFruit analysts say. Moldova has also started for the first time to supply, albeit in small quantities, apples to Germany, for example.

However, according to Moldovan fruit business experts, the two largest apple-importing countries, India and Egypt, remain out of reach, with their potential markets estimated at around 435,000 tonnes and 280,000 tonnes respectively⁵. The level of coverage of domestic demand by apple production in the period 2015-2021 exceeds 200%. The exception is 2015-195.9%. Apple production varied between 308 - 665 thousand tons.

The volume of export has been increasing, the highest level was recorded in 2019-324 thousand tons. Yields are well above utilization in different categories: export, fodder, processing for non-food purposes, losses, and personal consumption by the population. Imports are much lower than exports, about 10 times lower. Significant shares of existing resources go to exports (50%) and personal consumption by the population.

⁵ <https://east-fruit.com/novosti/kuda-poedet-moldavskoe-yabloko-urozhaya-2022-indiya-egipet-evrosoyuz-strany-persidskogo-zaliva/>

Tab. 9. Apple stock balance and utilization, thousand tonnes

Elements of balance	2015	2016	2017	2018	2019	2020	2021
Resources							
Production	308	412	487	665	611	480,4	648
Import	2	3	4	10	4	0,6	5
Change in stocks	6	-10	-5	-164	-66	18	-124
Total resources	316	405	486	511	549	499	529
Utilization							
Export	169	194	296	281	324	278	285
Fodder	1	1	1	1	1	0,1	0,3
Processing for non-food purposes	32	39	43	58	55	43	57
Losses	5	4	2	6	8	5	6
Personal consumption of the population	109	167	144	165	164	173	180
Total utilization	316	405	486	511	549	499	529
Level of self-provisioning, %	209,8	195,9	256,0	289,9	270,5	217,5	266,0

Source: NBS

Plums are the second most exported fresh fruit from the Republic of Moldova, making the country one of the ten largest exporters of this fruit in the world. Plum production in the country is steadily increasing, and intensive orchards are expanding. Statistics show that in Moldova, plum production, one of the main fruit crops, ranks second after apples in terms of production and area, and first among stone fruits, with an export volume in 2021 of 45,000 tons of fresh plums.

Currently, the area occupied by plum plantations is over 22 thousand hectares, of which almost 20 thousand hectares are occupied by fruit trees, with a production volume of over 123 thousand tonnes and an average yield of almost 6 tonnes per hectare. The Moldovan authorities report an increase in yield from 4.6 tonnes per hectare in 2014 to 6.81 tonnes in 2021. In the forecast for 2021-2025, plum production will show an upward trend to around 150 thousand tonnes in 2025, due to the planting of intensive orchards⁶.

The level of coverage of the domestic market demand for plums in 2019-2021 was 262-400.9%. Fruit production ranged from 103 - 132 thousand tons. The export volume was stable at about 70 thousand tons. Production is clearly higher than use by different categories: export, losses, and personal consumption of the population. Imports are much lower than exports, about 140 times lower. Significant shares of existing resources go to exports and personal consumption by the population. Personal consumption by the population accounts for about 1/4 of plum production and exports for more than 50%.

⁶ <https://east-fruit.com/novosti/k-2025-godu-proizvodstvo-slivy-v-moldove-dostignet-150-tys-tonn/>

Tab. 10. Plum stock balance and utilization, thousand tonnes

Elements of balance	2019	2020	2021
Resources			
Production	132	103	136
Import	0,0	0,5	0,4
Change in stocks	-29	9	-28
Total resources	103	113	108
Utilization			
Export	70	74	72
Losses	1	1	1
Personal consumption of the population	32	38	35
Total utilization	103	113	108
Level of self-provisioning, %	400,9	262,6	373,3

Source: NBS

The nut sector is constantly growing; statistics show that production has increased by 52% in the last 5 years. The Republic of Moldova is the 7th largest producer of walnuts in the world, after China, the USA, the EU, Ukraine, Chile, and Turkey. According to the Geneva International Trade Centre, Moldova is one of the largest exporters of walnuts to Europe, after the US, Mexico, and China. Moldova has the largest walnut factory in Eastern Europe, with about 700 ha of walnut growing area. About 90% of exports are walnut kernels and only 10% are walnuts in shell⁷. Nut plantations have grown rapidly since 2000, from an area of 4,000 hectares to 35,000 hectares in 2019 compared to 14,000 hectares in 2013, and the value of exports has increased from USD 39 million in 2007 to around USD 100 million in 2019. Average yields vary from 2 to 3 tonnes per hectare, depending on variety and climatic conditions.

The level of coverage of the domestic market demand for walnuts in the period 2015-2021 was 235-559%. Walnut production varied between 11 - 20 thousand tonnes. The export volume was stable at around 16-17 thousand tonnes. The exception is the year 2019-22 thousand tons. Production is clearly higher than the use by different categories: export, losses, and personal consumption by the population. Imports are lower than exports, being about 2 times lower. Significant shares of existing resources go to exports and personal consumption by the population. Personal consumption by the population accounts for about 1/3 of the nut production, and exports for about 100%.

Tab. 11. Nut stock balance and utilization, thousand tonnes

Elements of balance	2015	2016	2017	2018	2019	2020	2021
Resources							
Production	11	14	19	20	20	15	19
Import	6	6	6	8	8	7	8
Change in stocks	1	-1	-1	-5	0,1	0,2	-7
Total resources	18	19	24	23	28	21	20
Utilization							
Export	16	17	16	16	22	16,7	13
Losses	0,2	0,2	0,1	0,1	0,3	0,2	0,3
Personal consumption of the population	2	2	8	7	5	4	6
Total utilization	18	19	24	23	28	21	20
Level of self-sufficiency, %	398,6	559,4	235,2	302,9	343,5	311,8	289,6

Source: NBS

⁷ <https://invest.gov.md/ro/sectors/agrifood/>

The level of coverage of the domestic market demand for dried fruit in 2019-2021 was 1200-1700%. Dried fruit production varied between 7-12 thousand tons. The export volume was stable at about 9 thousand tons. The EU absorbs about 80% of Moldova's dried fruit exports; CIS countries, mainly Russia, Belarus, and Ukraine, account for the remaining 20%. Production is clearly higher than the utilization by different categories: export, losses, and personal consumption of the population. Imports are lower than exports, about 30 times lower. Significant shares of existing resources go to exports and personal consumption by the population.

Tab. 12. Dried fruit stock balance and utilization, thousand tonnes

Elements of balance	2019	2020	2021
Resources			
Production	7	9	12
Import	2	0,3	0,3
Change in stocks	-0,1	0,6	-1
Total resources	9	9	11
Utilization			
Export	8,6	8,9	9,9
Losses	0,1	0,0	0,1
Personal consumption of the population	0,5	0,5	0,8
Total utilization	9	9	11
Level of self-sufficiency,%	1200	1700	1302,0

Source: NBS

The level of coverage of the domestic market demand for table grapes in the period 2012-2021 was over 150%. The production of table grapes ranged from 70 to 126 thousand tonnes. In 2021, table grape plantations occupied an area of 17.9 thousand ha, of which 14.9 thousand ha were being harvested, with an average productivity of 57.5 quintals per ha and an overall harvest of 90.2 thousand tonnes. The volume of exports was stable at over 30 thousand tonnes, with the maximum value recorded in 2017-79 thousand tonnes.

Production is clearly higher than the utilization by different categories: export, processing, losses, and personal consumption by the population. Imports are increasing, but are well below exports, being about 7-10 times lower. Significant shares of existing resources go to exports, processing, and personal consumption by the population. Personal consumption by the population accounts for about 1/3 of grape production and exports for about 50%.

Moldova is the third largest exporter of grapes in Europe, second only to Italy and Spain in terms of supply. At the same time, Moldova earns \$30-40 million a year from fresh table grapes alone. In 2022, Moldova exported just over 17,000 tonnes of table grapes from the 2022 harvest. This volume is about the same as the export of this product for the same period last year. The first place in the top list of countries-importers of Moldovan table grapes is occupied, as expected, by Romania - almost 5.7 thousand tons, Kazakhstan quite unexpectedly takes the second place - over 4 thousand tons, the third - Ukraine, about 2 thousand tons.

The markets of Belarus and Russia, which in previous years topped the list of importers of grapes from Moldova, received 1.7 thousand tons and 724 tons respectively. Representatives of Moldovan winegrowers' associations note with regret that the country is certainly exporting a much smaller volume of table grapes this marketing year than last season, although in 2022 in Moldova the harvest of table grapes will be higher than last year - more than 100 thousand tons compared to 90 thousand tons. At the same time, the quality of grapes in the 2022 harvest, despite the drought, is also better than the last year⁸.

Tab. 13. Balance of stock of table grapes and their use, thousand tonnes

Elements of balance	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Resources										
Production	70	87	95	85	87	109	126	112	84	90
Import	3	4	2	2	1	6	4	5	5	7
Change in stocks	1	-1	1	0,2	2	-2	-29	3	22	3
Total resources	74	90	98	87	90	113	101	120	111	100
Utilization										
Export	30	37	48	41	47	79	46	52	39	56
Processing	20	29	26	24	20	8	25	36	39	17
Losses	1	1	1	1	1	2	1	1	1	1
Personal consumption of the population	23	23	23	21	22	24	29	30	31	26
Total utilization	74	90	98	87	90	113	101	120	111	100
Level of self-sufficiency, %	159,1	166,7	189,2	185,5	200,6	323,2	226,9	164,3	118,0	206,3

Source: NBS

2.5 Organic farming

Organic farming in Moldova is a sub-sector with great potential, but which is not being developed properly. According to MAIA data, in 2020 there were 152 registered ECO producers who were growing 71 ECO agricultural crops and producing 53 ECO products. In 2019, the number of ECO producers was of 144 entrepreneurs, that of ECO crops - 87, and ECO products - 65. The area of ECO crops in the last two decades has had an unstable development and varied from 80 ha in 2003 to 29352 ha in 2020. It should be noted that according to the forecast of expansion of areas for organic agri-food production provided for in the National Programme on Organic Agri-Food Production, approved by Government Decision No. 149 of 10.02.2006 for the implementation of the Law on Organic Agri-Food Production, the current indices are lower than the forecast for 2010 - 31100 ha.

The area of agricultural crops included in the organic circuit is varied and includes the following crops: wheat, maize, barley, oats, rye, walnut, hazelnut, aronia, buckthorn, sunflower, alfalfa, almonds, apple, mustard, peas, chickpeas, plum, medicinal plants, rape, soya, vines, strawberries, coriander. The absolute majority - 94% of the area - belongs to the following crops: sunflower, barley, apple, maize, walnut, wheat, soya, peas, rapeseed oil, and fallow land. The area of agricultural crops by status in 2020 is distributed as follows: organic- 75.22% (2019-78.68%), conversion year 1-4 - 92% (2019-9.11%), conversion year 2-19% (2019-11.71%) and conversion year 3-0.86% (2019-0.5%). By type of activity in 2020, manufacturing-70.81% (2019-74.16%), trade-5.65% (2019-4.12%), livestock-9.79% (2019-9.74%), storage-0.19%, processing-13.56% (2019-11.8%).

At the same time, the collection of ECO products in 2019 accounted for 0.19%. Moldovan companies use national and international certification bodies. Companies usually turn to national bodies to be eligible for subsidies from AIPA and to international bodies to operate exports to EU countries. According to MAIA, Moldovan legislation requires international certification bodies to be accredited at the national level in order to be recognized in Moldova. This requirement is contrary to the IAF MLA Multilateral Recognition Agreement, of which the National Accreditation Centre (MOLDAC) is a member, and which stipulates that accreditation certificates issued by signatory countries are mutually recognized. "In order to

make it possible to recognize international bodies at the national level, it is necessary to amend national legislation. To this end, the draft law on organic agri-food production and labeling, which harmonizes the new EU Regulation 848/2018 on organic production, is currently being promoted. This draft law has been submitted to the Government for approval, the ministry says.

Two national bodies were active in 2019, and the number of international bodies was also 11, but the certification body Control Union was replaced by Albinspect. In 2019, 135 economic operators were registered, of which 75 contracted national bodies and 60 - international bodies. The registered area was 27,923.36 ha, of which nationally certified - 7,381.36 and internationally - 20,542.1 ha. Of the total area registered in organic farming in 2019, the area certified organic was 21,600.9 ha, and the area in conversion was 6,322.48 ha.

The largest share was held by cereal, grain and oilseed crops. In 2020, the total area registered in organic farming was 29,352.06 ha, the area certified organic was 22,078.52 ha, in conversion year I - 1443.38 ha, in conversion year II - 5577.34 ha, and in conversion year III - 252.82 ha. In 2020, 144 economic agents were registered, of which 83 contracted national bodies and 61 international bodies. In 2022, 2 national and 15 international control bodies are active. Accredited and authorized inspection bodies in the EU are: "A CERT European Organization for Certification S.A."; "Agreco R.F. Göderz GmbH"; "Albinspect bio.inspecta"; "Bio.inspecta AG"; "CCPB Sri"; "CERES Certification of Environmental Standards GmbH"; "Ecocert SA"; "Istituto Certificazione Etica e Ambientale"; "Kiwa BCS Öko-Garantie GmbH"; "Letis S.A."; "OrganicmStandard"; "SIA "Sertifikācijas un testes centanas""; "Bioagricert s.r.l."; "EKO-CONTROL SK s.r.o."; "ORSER"1 .

Chapter III. External trade in animal products

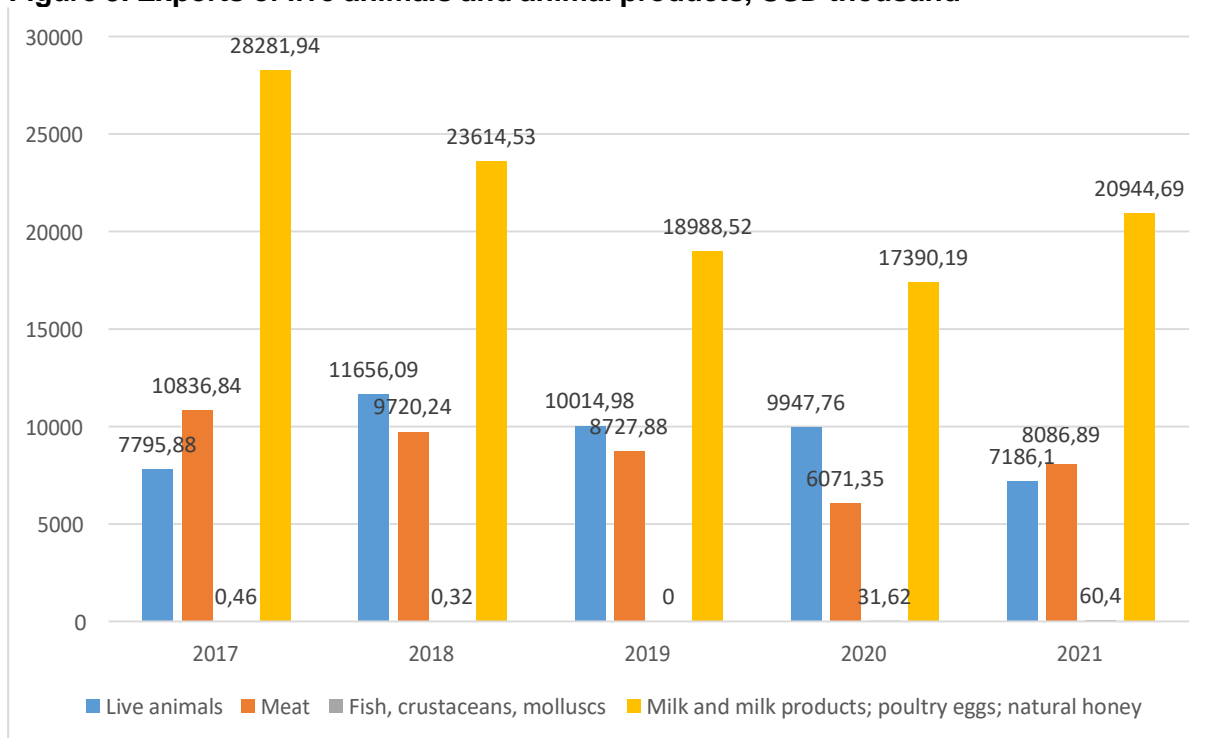
3.1. Animal sector

The livestock sector of the Republic of Moldova, during the transition to a market economy, has undergone colossal metamorphoses. In the period 1980-2022, the cattle herd decreased from 1,150 thousand head to 104 thousand head (in 2010-221.6 thousand head). A similar situation is also indicated by the statistical data on pigs: a regression for the same period in the number of animals, from 2,079 thousand head to 347.9 thousand head (in 2010-377.1 thousand head). The number of sheep during this period has decreased somewhat more slowly, from 1,207.0 thousand animals to 433.8 thousand (in 2010-803.7 thousand head). The number of equines decreased from 54 thousand head to 19.8 thousand head (in 2010-54.4 thousand head). Increases are recorded in goats, from 19 thousand heads to 140 thousand heads (in 2010-111.2 thousand heads), rabbits, from 365 thousand heads to 385 thousand heads (in 2010-274.5 thousand heads) and bee families, from 168 to 191 thousand families (in 2010-101.5 thousand families).

3.2. Export of animal products

Moldovan exports of live animals during 2018-2021 decreased steadily from 11,656.09 thousand USD to 7,186.10 thousand USD. Similarly, exports of *meat and edible offal* products decreased from 10,836.84 in 2017 to 8,086.89 thousand USD in 2022. Exports of products from the section *milk and dairy products; poultry eggs; natural honey* experienced a stable negative trend of decrease during 2017-2020, recording 28,281,94 thousand USD in 2017 and 17,390,19 USD in 2020. Exports of products from the sections *meat and edible organs; milk and dairy products; poultry eggs; natural honey; fish, crustaceans, and mollusks* are significantly lower than imports. Moldovan exports of live animals exceed imports.

Figure 5. Exports of live animals and animal products, USD thousand



Source: NBS

3.3. Import of animal products

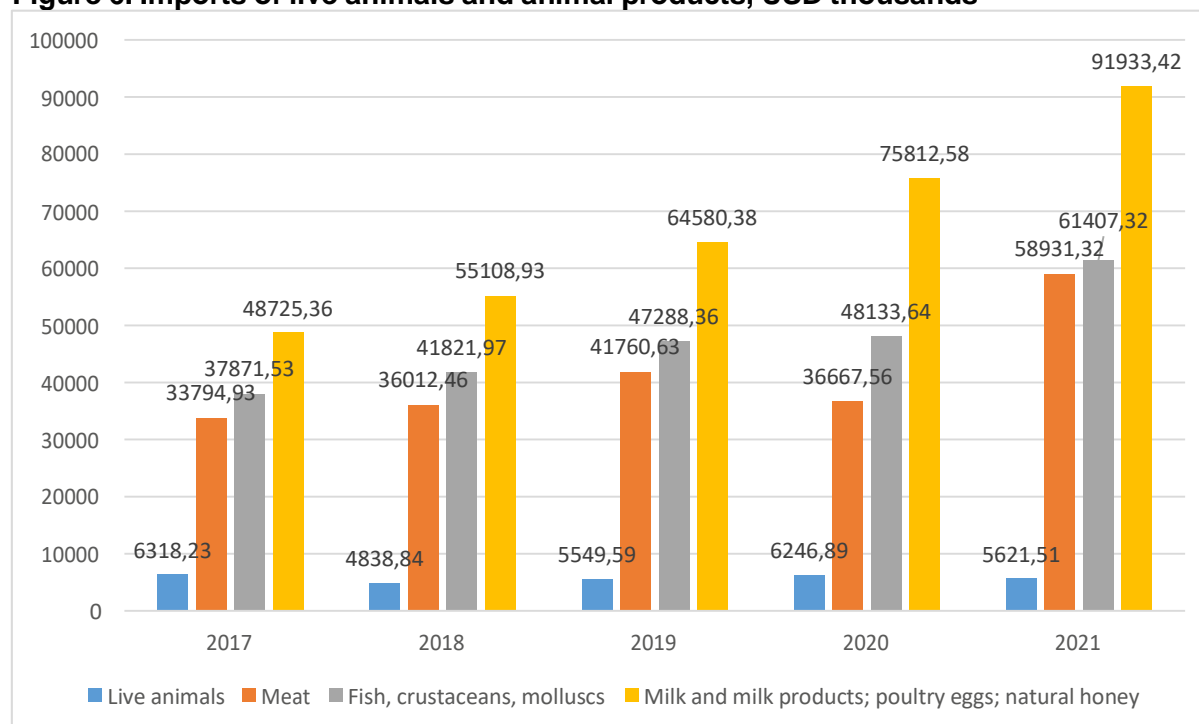
Imports of live animals in the period 2017-2021 had an unstable evolution, with the maximum shares being recorded in the years 2017-6,318.26 thousand USD and 2020-6,246.89 thousand USD. Imports of meat increased substantially in the period 2017-2021, recording, in the end, a volume almost double. Imports of products from the section *milk and dairy products; poultry eggs; natural honey* also experienced a stable growth trend during the period 2017-2021, recording 48,725.36 thousand USD in 2017 and 91,933.42 USD in 2020. Imports of products from the section *fish and crustaceans, mollusks, and other aquatic invertebrates* doubled, growing stably from 37,871.53 thousand USD to 61,407.32 thousand USD in 2021.

3.4. Balance of stocks of animal products

The level of coverage of demand on the internal meat market in the period 2012-2021 does not exceed 100%. Meat production varied between 110 - 138 thousand tonnes. The export volume varied between 1 - 7 thousand tonnes. Production is far below the personal consumption of the population. Imports are much higher than exports and constitute less than 1/3 of the products used in the country.

¹ Investment Agency

Figure 6. Imports of live animals and animal products, USD thousands



Source: NBS

Tab. 14. Balance of meat stocks and their utilization, thousand tonnes

Elements of balance	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Resources										
Production	116	115	122	131	138	118	122	118	119	110
Import	31	51	40	25	31	27	32	32	33	40
Change in stocks	-1	1	0,0	-1	-0,2	-0,1	0,3	0,8	-2	2
Total resources	146	166	162	155	169	145	154	151	150	152,3
Utilization										
Export	4	1	7	4	4	4	4	4	2	3
Losses	1	1	1	0,0	1	1	1	1	0,7	0,7
Personal consumption of the population	141	164	154	151	164	140	149	147	147	149
Total utilization	146	166	162	155	169	145	154	151	150	152
Level of self-provisioning, %	81,7	69,7	79,0	86,1	83,5	83,5	81,3	80,3	80,7	73,9

Source: NBS

The level of coverage of the internal market demand for beef in the period 2012-2021 exceeds 100%. The exceptions are 2013, 2014, 2019, 2020, and 2021. Meat production varied between 7 - 10 thousand tonnes. The export volume is between 0.8-3 thousand tons. The production is higher than the use in different categories: export, and losses, and was approximately equal to the personal consumption of the population.

Tab. 15. Beef stock balance and use, thousand tonnes

Elements of balance	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Resources										
Production	10	8	8	8	9	7	8	8	8	8
Import	1	1	1	1	1	1	1	1	1	1
Change in stocks	0,0	0,3	0,1	-0,1	0,2	-0,2	0,0	0,2	-0,1	0,2
Total resources	11	9	9	9	10	8	9	9	9	9
Utilization										
Export	1	0,0	0,0	3	3	2	1	1	0	0,8
Losses	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1
Personal consumption of the population	10	9	9	6	7	6	8	8	9	8
Total utilization	11	9	9	9	10	8	9	9	9	9
Level of self-provisioning, %	109,9	89,2	88,8	132,5	125,5	124,6	101,3	96,8	93,0	93,9

Source: NBS

The level of coverage of the internal market demand for pork does not exceed 100%. Meat production varies between 61-73 thousand tonnes and does not cover the personal consumption of the population. Exports are practically not operated. Imports are 4-25 thousand tonnes.

Tab. 16. Balance of pigmeat stocks and their utilization, thousand tonnes

Elements of balance	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Resources										
Production	64	61	65	72	73	62	66	65	63	61
Import	8	25	13	4	14	8	9	7	5	11
Change in stocks	0,0	0,0	-0,1	-0,2	0,3	0,0	0,0	0,1	-0,2	0,1
Total resources	72	86	78	76	87	70	75	72	68	72
Utilization										
Export	0,0	0,0	6,0	0,0	0,1	0,0	0,0	0,0	0,0	0,0
Losses	1	1	1	1	1	0,0	0,4	0,4	0,4	0,4
Personal consumption of the population	71	85	71	75	86	70	75	72	67,5	71
Total utilization	72	86	78	76	87	70	75	72	68	72
Level of self-provisioning, %	88,4	71,3	89,6	94,8	84,0	88,9	88,4	90,2	92,7	84,8

Source: NBS

The level of coverage of the domestic market demand for poultry meat in the period 2012-2021 was 60-77.8%. Poultry meat production ranged between 39-47 thousand tonnes. Exports are very low, up to one thousand tonnes. Imports range from 15 to 26 thousand tonnes. Production is clearly higher than utilization in different categories: export, processing, losses, and personal consumption by the population. Personal consumption accounts for more than 100% of domestic meat production and about 1/3 of imported meat.

Tab. 17. Balance of poultry meat stocks and their utilization, thousand tonnes

Elements of balance	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Resources										
Production	39	43	47	47	53	45	45	43	45	40
Import	18	21	21	19	15	17	20	22	25	26
Change in stocks	0,0	0,0	0,1	-0,1	0,0	0,0	0,1	0,4	-2	2
Total resources	57	64	68	66	68	62	65	66	69	68

Utilization										
Export	0,0	0,0	0,2	0,0	0,0	0,0	0,3	1	1	1
Losses	0,3	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Personal consumption of the population	57	64	68	66	68	62	65	65	68	67
Total utilization	57	64	68	66	68	62	65	66	69	68
Level of self-provisioning, %	68,1	67,3	69,3	71,8	77,8	71,5	70,0	66,5	66,6	59,6

Source: NBS

The level of coverage of the internal market demand for milk in the period 2012-2021 was over 66-90%. Milk production varied between 295 - 527 thousand tonnes. In 2022, the quantity of milk produced was almost 2 times less than in 2012. The volume of export varied between 13 -37 thousand tonnes. In the last 3 years, imports constituted about ½ compared to local production. The production is higher than the use in different categories: export, and processing, and lower than the personal consumption of the population.

Tab. 18. Milk stock balance and use, thousand tonnes

Elements of balance	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Resources										
Production	525	527	525	520	504	485	412	367	322	295
Import	101	96	86	79	99	134	146	162	150	173
Change in stocks	6	1	-9	9	4	-7	-9	12	7	-5
Total resources	632	624	602	608	607	612	549	541	478	463
Utilization										
Export	13	17	21	27	50	33	22	13	15	15
Fodder	11	16	18	15	19	17	13	10	10	5
Personal consumption of the population	608	591	563	566	538	562	514	518	454	442
Total utilization	632	624	602	608	607	612	549	541	478	463
Level of self-provisioning, %	84,7	86,8	90,3	89,6	90,5	83,8	78,0	69,6	69,5	66,0

Source: NBS

The level of coverage of domestic demand by butter production in 2019-2021 was between 48.7- 60%. Butter production amounted to 4 thousand tonnes annually. Exports were not operated. Imports recorded 2-4 thousand tonnes. The personal consumption of accounts for all existing resources.

Tab. 19. Butter stock balance and use, thousands of tonnes

Elements of balance	2019	2020	2021
Resources			
Production	4	4	4
Import	2	3	4
Change in stocks	0,0	0,0	0,1
Total resources	6	7	8
Utilization			
Export	-	0,0	0,0
Losses	-	-	0,0
Personal consumption of the population	6	7	8
Total utilization	6	7	8
Level of self-provisioning, %	60	58,5	48,7

Source: NBS

The level of coverage of domestic demand by egg production in the period 2012-2021 was 96.9-106.6%. Egg production varied between 578 - 689 million pieces. The export volume was unstable, increasing sharply between 2014-2017 from 3 to 71 million pieces and decreasing steadily, sharply from 2017 to 2021 from 71 million pieces to 8 million pieces. Yields are well above utilization in different categories: export, hatching, losses, and fodder. Imports are increasing, and are higher than exports. Personal consumption by the population is slightly less than domestic production in the country.

Tab. 20. Egg stock balance and utilization, million pieces

Elements of balance	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Resources										
Production	622	624	645	629	673	707	689	587	627	578
Import	19	14	12	21	17	28	24	30	27	27
Change in stocks	-14	3	0,2	-0,2	0,0	-0,1	0,5	1	3	0,2
Total resources	627	641	657	650	690	735	713	619	657	605
Uses										
Export	3	5	4	39	39	71	54	27	16	8
Incubation	32	29	29	29	31	42	37	41	36	29
Fodder	19	19	20	15	34	13	11	5	11	4
Losses	3	1	2	0,0	0,0	1	1	1	1	2
Personal consumption of the population	570	587	602	567	586	608	610	545	593	562
Total utilization	627	641	657	650	690	735	713	619	657	605
Level of self-provisioning, %	102,2	98,1	98,8	102,9	103,4	106,6	104,4	99,2	97,9	96,9

Source: NBS

Conclusions

- Exports of plant products despite all internal and external shocks in the period 2000-2021 increased 13 times, recording in 2021 the highest value - 869,860.57 thousand USD.
- Imports of products from the *live animals and products of the animal regnum* section in the period 2000-2021, increased 21 times (from USD 10,744.50 thousand in 2000 to USD 225,490.35 thousand in 2021). In 2021, imports of products from this section exceeded exports by 6 times.
- Imports of products from the section *products of the food industry; beverages, alcoholic beverages, and tobacco* are higher than exports, the growth trend is stable over the last 7 years, from 272,182.30 thousand USD in 2015 to 455,041.40 thousand USD in 2021.
- The crop sector is characterized by low yields and very low yields of most agricultural crops compared to European countries. The general trends in average yields and total production are also influenced by the inefficient use of production resources, both natural as well as human and material. At the same time, the crop sector is vulnerable to natural hazards. For example, in the years 2000, 2003, 2007, 2011, 2012, 2015, 2020, and 2022 there was a lack of an effective mechanism to reduce the impact of risks in agriculture (In 2021, 0.75 percent of the area of land used for agriculture was insured). Another destabilizing factor for the sector is the fragility of the rural market, which is still in its initial stage of formation (in the Republic of Moldova, the area of land for agricultural use is 2,260,815 ha. The number of landowners is 1,272,140).
- The Moldovan agricultural market is characterized by instability, strong price fluctuations, lack of balance between demand and supply of crop products, and frequent threats to the country's food security.
- Cereals predominate in exports of plant products. In 2016-2021, the export of these

products, with the exception of 2020, increased steadily from 1,139 thousand tonnes in 2016 to 1,531 thousand tonnes in 2021. The value of cereals exports in 2021 amounted to 367,732 thousand USD, which is significantly higher than the other sections, which are the products of the plant kingdom.

- Exports of products in the oilseeds and oil fruits section show an upward trend, with the highest values being in 2021-258,127.13 thousand USD. The increase in exports of these products is largely due to the increase in exports of sunflower seeds.
- The relatively high production and exports of cereal and oilseed products in the short term are justified by the problems of high demand on the international market, providing agriculture with labor and the increased mechanization of the production process. In the medium and long term, they present risks due to the fact that a large part of agricultural land is not owned by economic operators.
- The quantities of fruit produced in 2018, 2019, and 2021 are more than 2 times higher than the production recorded in the period 2000-2013.
- Imports of products of the vegetables, plants, roots, and tubers section recorded 33,103.89-65,942.01 thousand USD, being about 8-9 times higher than exports.
- The level of coverage of domestic demand for cereals, including wheat, in the period 2012-2021 exceeds 100%. The level of coverage of domestic demand for sunflower seeds, and fruit (plums-262-400.9%, nuts-235-559%, dried fruit-1200-1700%) over the period 2012-2021 exceeds 200%.
- The level of coverage of the domestic market demand by the production of potatoes, vegetables, meat, milk, butter, and eggs in the period 2012-2021 is below 100%.
- The livestock sector of the Republic of Moldova, during the transition to a market economy, has undergone colossal metamorphoses. In the period 1980-2022, the cattle herd decreased from 1,150 thousand head to 104 thousand head (in 2010-221.6 thousand head). A similar situation is indicated in the pig herd: a regression in the number of animals, from 2,079 thousand head to 347.9 thousand head (in 2010-377.1 thousand head). The number of sheep during this period decreased somewhat more slowly, from 1,207.0 thousand animals to 433.8 thousand (in 2010-803.7 thousand head).
- Increases are recorded in goats, from 19 thousand heads to 140 thousand heads (in 2010-111.2 thousand heads), rabbits, from 365 thousand heads to 385 thousand heads (in 2010-274.5 thousand heads) and bee families, from 168 to 191 thousand families (in 2010-101.5 thousand families).

Recommendations

- In order to reduce the existing gap between the average crop yields and yields of cereal, technical and vegetable crops obtained in the region and the average yields in the country, and to further increase them to the regional level, it is necessary to modernize these branches by technically equipping agricultural entities, extending irrigation in the region, optimizing the structure of agricultural establishments and increasing the range of agricultural crops grown in the area, creating modern and qualitative input supply units for agriculture and those for collecting agricultural products, and developing small-scale rural industry.
- A relevant sector for investments and investors is the small-scale primary industry for processing raw materials of plant and animal origin. In the first case, the ongoing trend of reorientation of exporters to other markets is visible and endangers the surplus of particularly perishable products on the domestic market.
- The development of collection and transport services for agricultural products through regional FoodHoobs for domestic and foreign markets will help eliminate a large number of intermediaries and reduce the prices of agricultural products sold.

- Another sector that is of interest for investment is the livestock sector, the production of which does not even come close to meeting domestic demand.
- Plausible areas of interest for investors are the creation of irrigation systems, the provision of renewable energy, and services to farmers for farm monitoring and intervention in case of need.
- One very promising area is organic farming. But here policymakers need to intervene to remove barriers, used informally by state institutions. Land in Moldova is heavily fragmented. The total land area of 2,260,815.826 ha is owned by 1,272,140 landholders. This situation has a strong negative impact on agricultural production and agricultural development. But it also offers opportunities for small farmers and possible investors. One of the barriers to the development of organic farming in Moldova is at the production level - the lack of certified organic seed material. However, both national and European legislation allows producers to use conventional seed material if it meets certain conditions: it has not been treated with pesticides, does not come from genetically modified crops, etc. The production of certified organic seed material can be carried out in small areas. Similarly, some agricultural establishments such as strawberry, mustard, lavender, herbs, hazelnut, whitethorn, almond, aronia, strawberry, fig, currant, gooseberry, strawberry, and raspberry can be included in the organic circuit in small areas.

⁸ <https://east-fruit.com/novosti/v-tekushchem-marketingovom-godu-moldova-otpravit-na-eksport-menshe-vinograda-chem-v-proshlom/>