



International Journal of
**Agricultural
Research**

ISSN 1816-4897



Academic
Journals Inc.

www.academicjournals.com

Analysis and Development Course of the Seed Sector in Turkey in Various Aspects

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Abstract : In this study, the world's seed production and trade in Turkey with seed production, seed distribution, seed rates, seed to support, ovary foreign buying and selling are examined and the solutions for current problems are tried to be given. Seed production of products such as sugar beet, cotton, chickpea, dry bean increased except vetch in the period under review. Production of hybrid seed corn was 2.84 times, hybrid sunflower seed production was 3:35 times and production of paddy rice seed 3:33 times increased. In the period under review the amount of the distribution showed an increase in the rates of wheat seeds 52.72%, of cotton (delinte) seeds 27.79%, of hybrid sunflower seed 26.39%. Hybrid maize seed distribution increased 2.21 times, the distribution of soybean seed increased 2:08 times, the distribution of seed alfalfa increased 2.08 times, rice seed distribution increased 3:49 times. The overall distribution of the total amount of seed amount has increased by 36.97% throughout the period. Despite the increase in seed distribution, distributed seed amount was not sufficient to meet the needs of the rates. However, by production and marketing of hybrid seed corn and sunflower hybrids by private seed companies, it has reached the desired level of distribution. There have been major changes in terms of quantity of the seeds and seed products imported. Between 2002-2008, importation of field crops seeds increased 6.3 times, importation of industrial plant seeds increased with a rate 25.9%, importation of feed crops 17 times, importation of grass seed 93.7% and importation of vegetable seeds increased with a rate of 67.9%. There are also positive developments of seed export quantities and values of Turkey. Field crops seed exports increased about 3.2 times, the industry exports seed crops 2.7 times, grass exports 11.7 times and vegetable seeds exports 9.5 times increased. Despite these positive developments at export stage, Turkey's foreign trade balance of seeds, is in favor of development for import. At 2005-2008 period, wheat seed prices increased by 82.7%, barley seed prices 95.2%, corn seed prices 16.7%, sunflower seed prices 6.3%, potato seed prices 33.3%, alfalfa seed prices 29.4%, rape seed prices 87.5% and cotton seed prices increased by 40%. The manufacturers, who use certified seed should be supported to encourage using qualified seed and assistance should be increased. To increase the use of qualified seeds, barriers making it difficult to reach seed for producers must be removed and producers shall reach seed from the shortest path and the cheapest way.

Key words: Seed production, seed distribution, seed trade, seed rates, seed supports

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INTRODUCTION

Increasing efficiency in agriculture which is the main sector of the economy of Turkey depends on the dissemination of these inputs and to be used on proper technique. Advances in agricultural input prices, provides economic development and income level of agricultural producers. Therefore, the importance of input use is extremely large to increase production rates derived from the unit area (UTCA, 2000). At the same time Turkey's evaluation of its agricultural potential and converting speed efficiency increase, existing resources should be combined with advanced agricultural technology (Kizilaslan, 1996).

Seed is one of the factors which directly affect crop production efficiency and quality. Seed technology that is not dependent on other plants production techniques changes and is not showing a complex nature, shows quite clearly and directly the effect on production (UTCA, 2004).

Today, one of the indispensable elements of modern agriculture; quality seeds, can increase the yield up to 3-4 times by seedlings and saplings with the use of suitable breeding conditions. Also qualified seeds, seedlings and saplings, increases the chances of selling domestic and foreign markets of the product, thus it is also effective for producers to earn more income in the area of the unit. General characteristics of the seeds are determined by its genetic, physical and biological values. According to region's growing conditions, although these three values of seed obtained from other, sometimes one, sometimes more obvious in the product yield and quality as well as to affect the rate; genetic value has undeniable importance. At the ecology of the abundant rainfall and irrigation conditions, approximately half of the expected increase in productivity compared to dry cereal agriculture is provided by the varieties of genotype. Variety factor has an effect increase the efficiency level of 20-30% in dry farming system (Kun *et al.*, 1995). Enormous resources and effort have spent to achieve for developing new varieties to bring new features to existing varieties, qualified seeds for this species, saplings and seedlings for farmers to produce from the beginning of agriculture until today. The main reason for these efforts, seed and variety have a very important role in improving quality and increase the efficiency (Genctan *et al.*, 2005).

In this study, the world's seed production and trade, Turkey seed production, seed distribution, seed prices, seed supports, ovary import and export were examined and current problems for the solutions were tried to be given.

WORLD'S SEED PRODUCTION AND TRADE

Seed industry, takes into various economic activities and relationships extending a long process begins with breeding or development of superior genotypes on new plant varieties from consumers to farmers for submission of after-sales service involving many private, public and NGO's role. In today's world, specialization and trade volume shows an increasing trend in all areas related to seed industry. However, natural, social and economic challenges faced by farmers earned livelihood from agriculture, as world agriculture such as intensive and extensive reconstruction, have inhibitory effects against the seed industry's growth. In many countries, because of insufficient agriculture-related activities and absence of the activities that can be considered as Standard, also due to the lack of information on world production and trade of seeds, estimated data is concerned about. There is no unique definition and classification of application, especially between countries of seed and vegetative propagation material. In most cases, seeds and products are considered in the

same category. Between countries, the market breadth in terms of monetary considerations can not be performed healthy. Seed refresh rates of countries varies and especially in cereals more to the fore to, seeds of the monetary value shows differences between country (SPO, 2001).

The most important amount of seed and production in the world are the member countries of UPOV, OECD and ISTA. Ankara Directorate of Seed Registration and Certification Centre Institute are authorized by International Seed Control Laboratory Association (ISTA) and OECD in the issuing certificates. Turkey also is a member of such seed-related institutions ISTA, OECD, the International Seed Trade Association (FIS) (MARA, 2004).

By using high technology and genetic engineering in developing excellent varieties of the species in some countries such as European countries, USA, Canada, today it is possible to develop of superior genotypes and to supply to production. Varieties breeding, quality control of varieties, seed production and distribution to farmers are different in developed and underdeveloped countries of the world. Breeding crop varieties are used in all cultivated areas in Germany, France, Canada and Spain which have an important place in the world agriculture (UTCA, 2004).

Annual monetary value of seeds produced in the world today is estimated approximately 50 billion US dollars. Again, according to estimates, the monetary value of seed in world trade each year is approximately 30 billion dollars. In Turkey, every year, the total value of the certified seeds subjected to trade is around 250 million dollars (Acar, 2008). Thus, it is believed to be approximately 1% 'i (0008), the subject of trade in Turkey every year as the amount of seed in the world seed trade is subject to total monetary value (PSD, 2006).

The US have the largest volume of domestic market, import and export. France, Germany and Italy have the highest values among European countries. Movement of seed and world trade has continuously increased. This increase took place more quickly than the national market seed trade. This is especially the case for the European Union. The increase in the global seed trade, trade in other goods carried out in parallel with the increase in the seed industry, this increase resulting from its own unique characteristics and dynamics.

All over the world, in recent years, experienced political, economic and technical changes in the real sense has resulted in a global marketplace. World Trade Organization, establishing a regional agreement, trade and economic cooperation and, ultimately, communication and transportation can be accessed along dimensions which eliminated national borders, enabling a world market of seed production in the real sense.

However, the international seed trade in the development of the agricultural sector and its unique nature of the seed industry play a encouraged role. Indeed, different geographies or countries of seed production, dissemination activities, climate and environmental conditions can lead to minimize the possible risks and to allow a steady supply is important for seed. Similarly, certain plant species belonging to the production of seeds in some countries has a comparative advantage than others have in terms of agro-ecological socio-economic aspects, both physical and economic sense (SPO, 2001).

SEED PRODUCTION IN TURKEY

Seed productions of some products in Turkey are given in Table 1.

If Table 1 is examined both, seed production of products except sugar beet, cotton (pile), chickpea, dry bean and vetch (common) have increased on the private sector and public sector. Significant progress has been made especially in areas of increased activity of

Table 1: Amounts of seed production in some products in Turkey (tonnes) (2000-2008)

Products	2000	2001	2002	2003	2004	2005	2006	2007	2008	Change (%)
Wheat	116083	43915	80107	100101	223094	176202	211848	210044	145522	125.36
Barley	19203	6818	4376	11194	19074	22307	28351	20645	20180	105.09
Corn	11987	13632	15896	21399	27108	30167	16107	14592	34097	284.45
Rice	1021	1995	1293	1298	1221	3505	3241	3645	3410	333.99
Sunflower (Hib.)	2600	2338	4575	5267	5358	6522	7670	6190	8727	335.65
Sunflower (Vin)	37	30	13	45	-	-	10	-	-	-
Soya bean	981	1214	595	373	292	201	969	752	1274	129.87
Peanut	-	-	1	20	81	101	61	100	50	-
Sugar beet	3438	3570	1421	1241	2450	2720	582	1448	947	-72.45
Potato	23275	17669	21375	27885	45870	63901	75138	44919	45651	196.14
Cotton (Delinte)	9165	16496	10108	10410	18386	19576	18784	14141	10948	119.45
Cotton (Havli)	2358	2434	1477	843	571	5	71	182	37	-98.43
Chickpeak	699	1521	198	181	162	157	161	143	127	-81.83
Bean	45	42	29	8		30	19	3	3	-93.33
Lentil			14	15	356	285	628	1113	380	-
Canola (Kolza)			20	20	15		321	175	72	-
Vegetables	855	1048	1249	992	1412	1942	2283	2731	2087	244.09
Sesame	1	1	3	2			1	1		-
Clover	381	450	269	279	446	476	508	678	517	135.70
Sainfoin	621	647	411	682	942	1232	929	125	698	112.40
Vetch (Hungarian)	461	393	946	800	1415	855	977	861	1154	250.33
Vetch (Common)	1425	1199	300	758	476	1195	1195	1345	870	-38.95
Sorghum					4	2	2	5		-
Sudane	10	5	6	5	10	13	21	25		-
SorgumxS.	1	165	117	51	50	145	192	335	5	500.00
Forage turnip				2	5	5	2	5		-
Forage beet		41	22	23	35	10	21	11	8	-
Lawn and grass	303	274	406	353	499	636	656	799	454	149.83
Total	194950	115897	145227	184247	349332	332190	370748	325013	277218	142.20

Source: MARA, General Directorate of Agricultural Production and Development records. Various years, 2009

the private sector seed hybrid seed production. In the period under review the production of wheat seeds 25.36%, barley seeds 5.09%, cotton (delinte) seeds 19.45% showed an increase in the relative ratios. Hybrid corn seed production 2.84 times, hybrid sunflower seed production has increased 3.35 times. In the same period in rice seed production increased significantly and has a 3.33 times increase ratio. During period, the overall total seed production rate has increased by 42.20%.

Seed production in Turkey is performed by the public and private sectors. Initially given as a task of public sector, seed production services conducted in Turkey in the 1980s and then government policies applied, including within the private sector gaining a competitive identity (Celik, 2000). Imports facilitate high efficiency and high quality varieties of seed which could not be generated domestically and within the country producing the necessary infrastructure, tools equipment and operating inputs for the low-interest credit facilities to ensure the resulting company and the variety in the number of significant increases have been achieved. Despite these advances, some kind of private sector's share in the seed sector is not at a desirable level (Miran, 2005).

MEETING CONDITION OF SEED DISTRIBUTION AND REQUIREMENT IN TURKEY

In Turkey, main encountered problems are seed supply and distribution of seeds. Seed production and distribution system has been linked to certain principles. Seeds produced or supplied are coordinated by the General Directorate of Agricultural Production and Development and distributed to farmers through public and private sector. Private sector

performs distribution services by dealership systems, but public sector, these services performs through the dealer organization commissioned by the Ministry (Miran, 2005). The release in seed prices in 1982, Seed Imports Release in 1984 and in 1985 the Seed Grants Decree and with the appropriate policies got into force following them in Turkey, seed sector has entered into a restructuring based on the to the private sector. Establishment and development of seed companies in Turkey has accelerated with the impact of policies implemented.

Public agencies have focused on the plants such as self-fertilized plants seed production, wheat, barley, cotton and feed crops which are unattractive for private sector, while the private sector seed companies have focused on corn, sunflowers, potatoes and vegetables, hybrid seed production. Private seed companies using hybrid seed development technologies at their producing and marketing programs, especially in recent years, in addition to their own developed varieties, they give sufficient importance to the hybrid and standard varieties by the Research Institute as well. However, effective use of the private sector for promoting and marketing varieties developed by the research institutes and to make production faster; reducing external technologically dependence of Turkey seed sector and spreading the domestic use of technology are main key objectives of the Ministry of Agriculture and Rural Affairs. By the law of Protection of Ownership Rights Breeding of New Plant Varieties, the private sector can also be directed to the self-fertilized seeds of plants and can invest in this area (UTCA, 2004).

Some of the amount of seed distribution of products in Turkey were shown in Table 2. By observing the Table 2, it is seen that the amount of the distribution of seeds of barley, sunflower (vin.), cotton (pile), chickpea, dry bean and vetch (name), SorgumxS are increased

Table 2: Some of the amount of seed distribution of products in Turkey (tons) (2000-2008)

Products	2000	2001	2002	2003	2004	2005	2006	2007	2008	Rate (%)
Wheat	101833	58956	80089	99101	229029	173386	204526	173076	155517	152.72
Barley	19666	6062	4127	11458	18499	21643	25106	22495	19225	-2.24
Hybrid Com	9464	7611	14547	10688	13160	27706	22069	13807	20945	221.31
Rice	618	1087	897	1359	1297	1289	1722	2466	2158	349.19
Sunflower (Hib.)	2008	1487	3065	1892	2019	5162	2420	2507	2538	126.39
Sunflower (Vin)	78	45	7	12			6	5	18	-76.92
Soya bean	313	497	796	489	332	495	309	535	652	208.31
Peanut	51		1	1	21	61	45	60	80	156.86
Sugar beet			3177	1398	1192	2201	1487	1434	1820	-
Potato	40149	25941	26000	28910	40406	47624	68288	62289	41235	102.70
Cotton (Delinte)	8859	10179	9620	9580	11446	12306	15773	9240	11321	127.79
Cotton (Havli)	4912	2287	1156	684	369	219	162	88	98	-98.00
Chickpeak	270	656	166	119	59	143	159	157	165	-38.89
Dried beans	42	28	24	22	2	5	5	4	1	-97.62
Lentil			1	8	5	2	193	8	1150	-
Canola (Kolza)		23	30	30	7	15	238	130	199	-
Vegetables	1744	1679	2137	2013	3227	3103	2224	2416	3709	212.67
Sesame	1		3	1		1			1	100.00
Clover	556	390	416	370	473	1061	2249	3126	1160	208.63
Sainfoin	759	843	885	478	1414	1491	2173	1767	857	112.91
Vetch (Hungarian)	620	580	397	901	1123	1895	1160	975	804	129.68
Vetch (Common)	1020	1407	406	197	834	471	1405	884	574	-43.73
Sorghum				32	38	102	118	126		-
Sudane	22	37	47	7	5	11	13			-
SorgumxS.	166	192	100	132	214	214	195	117	4	-97.59
Forage turnip				2	18	22	16	2	4	-
Forage beet	37	20	44	26	40	39	34	78	22	-40.55
Lawn and grass	2107	1770	2236	2490	2230	3601	3871	4318	3242	153.87
Total	195296	121777	150374	172400	327459	304268	355966	302110	267499	136.97

Source: MARA. General Directorate of Agricultural Production and Development records. Various years, 2009

Table 3: Level of meeting needs in the amount of seed for some products distributed in Turkey

Products	Crop planting area (ha)**	Planting norm (kg da ⁻¹)	Renewal period	Estimated seed need according to renewal period (tons)	Distribution (tons)			Average distribution amount of last 3 years (tons)	Rate to meet the needs of distribution in 2008 (%)
					2006	2007	2008		
Wheat	8097700	20	3	539847	204526	173045	155517	177696	29
Barley	3428016	20	3	228534	25106	22495	19225	22275	8
Hybrid corn	517500	3	1	15525	15103	13818	20945	16622	100
Rice	93900	20	2	9390	1722	2466	2158	2115	23
Chicpea	503675	10	3	16789	159	150	165	158	1
Dried beans	109250	10	3	3642	5	4	1	3	0
Hybrid sunflower	554678	0.4	1	2219	2420	2507	2538	2488	100
Potato	152598	300	2	228897	70276	62289	41235	57933	18
Soya bean	8675	9	1	781	490	535	652	559	84
Kolza (Canola)	10683	1	1	107	236	130	199	188	100
Peanut	25942	5	1	1297	45	60	80	62	6
Cotton (Delinte)	530253	2	1	10605	9113	9328	11321	9921	100
Vegetable	815000	-	1	-	2224	2416	3709	2783	-
Clover	534897	2	4	2674	2249	3126	1160	2178	43
Sainfoin	129896	8	3	3464	2173	1767	857	1599	25
Vetch	639177	9	5	11505	2565	1859	1378	1934	12
Sorghum	36	3	2	1	195	117	4	105	100
Forage beet	3100	3	2	47	34	78	22	45	47
Lawn and grass	-	-	3	-	3871	4318	3242	3810	-
Sugar beet	300242	0.4	1	1201	1487	1434	1820	1580	100
Lentil	357233	10	3	11908	193	8	1150	450	10

**According to TURKSTAT statistics from the year 2007. Source: MARA, General Directorate of Agricultural Production and Development records. Various years, 2009

except for forage beet. In the period of reviewing the amount of distribution, the wheat seeds 52.72%, distribution of cotton (delinte) seeds 27.79%, distribution of hybrid sunflower seed showed an increase of 26.39%. Hybrid maize seed distribution showed an increase in the rate 2:21, the distribution of soybean seed 2:08 times, clover seed distribution has increased 2.08 times. In the same period in the distribution of rice seeds showed 3:49-fold increase considerably aroused. The distribution of the total amount of seed was increased by 36.97% in the period overall.

However, despite the increase in seed distribution, as shown in Table 3, low rates of the distributed seeds to meet the needs are seen in some products. As shown in the Table 3, wheat seed distribution can meet 29% of the need, 8% of barley, 23% of rice, 18% of potato. The hybrid corn and hybrid sunflower seeds produced and marketed by almost all the private seed companies can be said to reach the desired level of distribution. Again, rape, sugar beet, cotton and vetch seeds in the distribution of their products, the situation seem to be good.

FOREIGN TRADE OF SEED IN TURKEY

Private seed companies have begun to produce and market the hybrid varieties as developed their own kind and also standards of research institutes while previously dependent on foreign resources on hybrid cultivar development programs. Some of these companies make large investments in Turkey, founded the modern seed plants and seeds capable of producing European Standards. Important part of the seeds that are produced in these increasing number of growing modern plants are used through foreign sales (Genctan *et al.*, 2005).

Turkey's foreign trade value and the amount of seeds in the period under review are shown in Table 4.

Table 4: Turkey's foreign trade value and the amount of seeds in the period (2000-2009)

Import	Field crops					Industry crops							Total forage crop	Total seeds of grass and lawn	Vegetables			General Sum	
	Wheat	Barley	Hybrid corn	Rice	Sum	Cotton	Hybrid sunflower	Canola	Soya bean	Peanut	Potato	Sugar beet			Sum	Hybrid vegetable	Standard vegetable		Sum
Amount (tons)																			
2002	129		784		913	166	177	50	6		14147	86	14632	403	2131	411	737	1148	19227
2003	1453		2607	30	4090	79	203	15			7570	130	7997	681	2809	222	542	764	16341
2004	802		4616	30	5448	418	103	23	8		8580	25	9157	1115	2084	408	1626	2034	19838
2005	563	20	4568		5151	290	125	51			9712	8	10186	3989	2859	240	1451	1691	23876
2006	638	35	1333	32	2038	109	160	335			17893	23	18520	5532	5089	375	1100	1475	32654
2007	1146	500	1695		3341	271	266.3	60	4	35	17606	175	18417	6868	4128	400	1220	1620	34374
2008	789	423	4538		5750	212	340	137			12845	602	14136	1420	4185	345	1582	1927	27418
2009*			2673		2673	257	516	16	3		9590	470	10852	757	2147	870		870	17299
Values (000 \$)																			
2002	46		2442		2488	241	2190		4		6826		9261	426	3047	36255	3815	40070	55292
2003	586		6267	19	6872	268	2919				5555		8797	817	4045	44193	6525	50718	71249
2004	484		12255	23	12762	406	1519		10		6971		8973	1661	3573	44482	7787	52269	79238
2005	384	9	13632		14025	604	4928				6728		12396	8327	5784	42034	7031	49065	89597
2006	498	25	4643	18	5184	367	3673				12607		17681	11295	9712	55882	5854	61736	105608
2007	373	247	6242		6862	533	3024		7	69	17141	7356	28534	12372	7913	64080	10820	74900	130581
2008	547	185	18401		19133	573	4069				13650	14635	34194	4229	11616	78000	18000	96000	165172
2009*			12298		12298	923	3615		97		7870	10691	23305	1581	4981	72165		72165	114330
Export																			
Amount (tons)																			
2002	20		4694		4714	1854	1416						3270	1	27	10	90	100	8112
2003	300		12555		12855	1263	1844						3107		31	3	99	102	16095
2004			9135		9135	2420	3723			189			6332		65	11	115	126	15658
2005			6120		6120	3884	3271						7155		24	9	506	515	13814
2006	5070	49	8533		13652	4298	4666				30		8994	7	95	35	1158	1193	23941
2007	3305		5231		8536	5919	4958				146	18	11169	57	88	22	1463	1485	21335
2008	5333		9602	10	14945	3197	5466		10	2		10	8685	456	317	4	945	949	25352
2009*	61		2646	10	2717	2084	3402		40				5528	325	77	132		132	8779
Values (000 \$)																			
2002			10856		10856	3531	2526						6057		90	113	204	317	17320
2003	160		13097		13257	2416	5410						7826		108	80	180	260	21451
2004			14762		14762	6450	9435						15885		223	658	3619	4277	35147
2005			8999		8999	3631	9183						12814		178	1236	3754	4990	26981
2006	38	24	15129		15191	8218	17842						26062	35	449	1204	4152	5356	47093
2007	111		12961		13072	8195	19034				432	28	28410	134	395	1583	6292	7875	49886
2008	3514		23617	15	27146	5900	26650		18	3		342	32913	989	635	3080	5950	9030	70713
2009*	34		7387	15	7436	3943	18446		73				22702	1033	580	3544		3544	35295

Import Data 15.09.2009 Export Data of first 6 months of 2009. Source: MARA, General Directorate of Agricultural Production, Development records various years, 2009

By the examination of the chart, there have been major changes in terms of quantity according to the importing seeds and seed products. In 2002, 784 tons of hybrid maize seed was imported; in 2008, this value rose to 4538 tons. Potato import has fallen 12 845 tons in 2008 while it was 14147 tons in 2002. A rate of 67.9% has been an increase in the amounts of import of vegetable seeds. A change of 96.4% was observed in import quantities of grass seed-lawn. In 2008, 789 tons of wheat seed was imported which was increased by 1.6 times compared to 2002.

In general, field crops seeds imports increased 6.3 times between 2002-2008 period, industrial plant seeds imports increased rate of 25.9% and feed crops imports increased by 17 times, grass and lawn seed imports increased 93.7% and vegetable seeds imports increased by the rate of 67.9%. Turkey's seed import value in 2008 was US \$ 165.172 million.

In the same period, Turkey's seed increase in export volume and value can be considered as a positive development. The introduction of private sector growth has been achieved in a significant amount of seed export. Overall evaluation, field crops seed exports in this period, approximately 3.2 times, the industry exports seed crops 2.7 times, grass and lawn seed exports 11.7 times and vegetable seed exports is times increased 9.5 times. In 2008, Turkey gained revenue of US \$ 70.713 million by import seeds. Despite these positive developments at import, Turkey's foreign trade balance seems developing in favor of import seeds.

In Turkey, it shall be prevented to import the seeds which variety development, seed production and preparation has been done successfully in plants such as wheat, barley, rice, cotton and sugar beet seeds. This practice prevents the production of local seeds and gives a great harm to seed production industry. A limited amount of test material of this plant for development purposes should be permitted from abroad.

Some of multinational seed companies operating in Turkey developed the transgenic varieties forced intense pressures for cultivation. Not to hurry in this regard, better monitoring and evaluation of developments in the world and move in line with the country's behavior and preferences which are competitors in world markets of Turkey are vital to act. After understanding exactly that there is no risk for human health and environmental safety issues, it would be better produce. Especially clarity is very important to understand, as the gene center of many of the crops, Turkey, in case of making transgenic varieties into production, at what levels biodiversity may be affected. Also, because it is far behind the desired level in the use of certified seed production, Turkey could adversely affect the development of seed and will be able to increase foreign dependence by the production of transgenic varieties (Gençtan *et al.*, 2005).

SEED RATES AND SUPPORTS IN TURKEY

In Turkey, seed prices are noted to be significantly affected by the demand the use of certified seeds. Producers have established a link between seed prices and the price of manufactured products. During periods if the increase in seed price is too much of the increase in product prices, the demand for certified seeds to farmers are reduced (Celik, 2000). Accordingly, use of high-efficiency and high quality seeds manufacturers is largely dependent on seed prices.

Advances in seed prices of some products in Turkey are shown in Table 5.

As shown in Table 5, seed prices have shown increases year to year. During the 2005-2008 period, wheat seed prices 82.7%, barley seed rates 95.2%, corn seed prices 16.7%, sunflower seed prices 6.3%, potato seed prices 33.3%, clover seed prices 29.4%, colza see prices 87.5% and cotton seed prices are increased by 40%.

Since 2005 extra support payments are made to farmers who use certified seeds with the scope of the direct income support payments associated with production of appropriate techniques and technologies. Support the amounts in 2009 to farmers using certified seed and to seed production organizations within the context of Domestic Certified Seed and Certified Seed Production Promotion Decision by 2009/1 5406 dated the Council of Ministers published on 9 September 2009 the Official Gazette and came into force.

In respect of the Decision of Domestic Use of Certified Seed and Promotion on Certified Seed. The support per decare to farmers who produced and used certified seed domestically is shown in Table 6.

Supports per kilogram of private sector seed companies producing certified seeds, issuing certificates, performing domestic sales are shown in Table 7.

In addition, within the scope of decision on the Development of Animal Husbandry, seed production agencies seeds are supported in case of producing seed of clover, sainfoin

Table 5: Seed prices of some products in Turkey according to years (2000-2004 TL/kg-2005-2008 YTL/kg)

Products	2000	2001	2002	2003	2004	2005	2006	2007	2008*
Wheat	179650	276650	415000	528000	493000	0.52	0.65	0.80	0.95
Narley	144000	250000	320000	350000	430500	0.42	0.49	0.61	0.82
Corn	1700000	2150000	3000000	2400000	7500000	12.00	12.00	12.00	14.00
Rice	465000	600000	1000000	1100000	1400000	1.75	1.85	1.85	2.00
Chickpea	625000	1000000	1500000	2000000	1000000	1.20	1.20	1.25	3.00
Lentil	350000	600000	1250000	1500000	1000000	1.20	1.20	1.25	4.00
Dried bean	800000	1500000	2250000	3000000	3000000	3.50	3.50	3.50	4.00
Soya bean	850000	1000000	1100000	1230000	1500000	1.70	1.80	2.00	2.90
Hybrid sunflower	-	-	-	-	16000000	16.00	15.00	15.00	17.00
Potato	400000	-	500000	550000	550000	0.60	0.70	0.70	0.80
Cotton	280000	-	2100000	2300000	3000000	3.00	3.00	3.00	4.20
Clover	3250000	4062500	6000000	8500000	8500000	8.50	8.50	8.50	11.00
Sainfoin	350000	437500	1100000	1800000	1800000	18.00	2.00	2.00	2.75
Vetch	300000	320000	1100000	1800000	1800000	1.80	2.00	2.00	2.20
Sudane	700000	700000	1200000	1600000	1600000	1.70	2.00	2.00	-
Forage beet	820000	2500000	2950000	3600000	6000000	6.50	7.00	7.00	-
Sugar beet	-	-	7000000	11000000	12500000	16.00	16.00	16.00	-
Colza	-	-	-	-	4500000	8.00	10.00	10.00	15.00
Peanut	-	-	-	-	4500000	5.00	6.00	6.00	7.00

*2008 prices are gained by TURKTED, TIGEM, TAGEM, CUKOBIRLIK. Source: MARA, General Directorate of Agricultural Production and Development records. Various years, 2009

Table 6: Certified seed support for domestic use

Products	Payment (TL da ⁻¹)
Wheat, clover	5.00
Barley, triticale, oats, rye	3.50
Rice, peanut	8.00
Chickpea, dried bean, lentil	6.00
Sesame, colza (canola), safflower	4.00
Potato	20.00
Sainfoin, vetch	3.00

Table 7: Domestic certified seed production support

Products	Payment (TL kg ⁻¹)
Wheat	0.10
Barley, triticale, oats, rye, potato	0.08
Rice	0.25
Chickpea, dried bean, lentil, safflower, sainfoin, vetch	0.50
Soya Bean	0.35
Canola	1.20
Sesame	0.60
Clover	1.50
Peanut	0.80

and vetch species forage crops. Also, through the premium payments, additional payments with a rate of 20% are made if the cotton and soybean producers use and document certified seeds

Regarding the decision supporting livestock, to fodder crops producing farmers, supports are given in case of buying certified forage crop seeds they are paid the price of perennial forage crops of 35 and 20% on one-year forage crops. In order to more easily obtain the domestic certified seeds of wheat and barley T.C. Ziraat Bank and the Agricultural Credit Cooperatives give low-interest loans to farmers. Except for Animal beet and vegetable seeds, certified seed has been reduced to VAT of 1%. This situation affects positively mainly feed plants for seed production and use of certified seeds (MARA, 2006).

CONCLUSIONS

Main problem in seed production is the incorrect planning on the basis of today's varieties in Turkey as in the past. The production of seeds such as wheat, barley which are mainly produced by government agencies, is carried out at the request of the manufacturer one year before the plan. The level of product yield, quality and seed prices determine the demand varieties of seeds. This causes decreased demand for some varieties of seeds that remain in stock, while the other varieties of seeds are large discrepancies. Especially extra number of varieties of wheat seeds causes serious problems in production and distribution of the production schedule and makes it difficult to do.

A big part of our producers using certified seeds, believe and recognize increasing in efficiency. However, the lack of purchasing power prevents the use of these seeds. Therefore, manufacturers encourage and support to use high quality seed and supports for certified seed should be increased. To increase the use of quality seeds, barriers which make it difficult for producers to reached seed should be removed and the shortest path and the cheapest way must be provided to producers of seeds. Unless you solve problems related to purchasing power in the use of certified seeds, it is concerned that the decline will continue in future years.

Because of the activities of private seed companies in the distribution of seeds produced by private seed companies in their markets there seems no major setback. Regarding Turkey's international obligations and taking into account the EU harmonization process, a structure must be achieved for seed development by changing the structure of the public to private sector seed. Allowing the creation of private sector to establish professional organizations media and let the sector to participate in seed-related policies and decisions.

Turkey must perform phytosanitary certificates respect to the international obligation for the import. In the EU Accession Partnership Document and requirements to complete the inadequacies in the seed sector in the areas of plant health should be taken into consideration.

Harmonization of Turkey with the European Union, one of the most important steps is the establishment of a Law of seeds. With this law, the vast majority of the seed sector with the relevant legislation has been harmonized. Moreover, by law, the governmental seed sector can be shifted to the private sector which is an important step. Turkey is moving in the positive direction of the seed sector. This sector is advancing at a rapid pace towards tradition to modernity. Existing arrangements are promising, but at Turkey agricultural sector, the necessary arrangements should be done regularly and arrangements, works at international levels should be monitored closely.

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