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Report Highlights:

Despite its privatization in the 1980s and continued government support, Turkey's domestic seed production is not sufficient to meet local demand. The GOT has developed several laws and regulation, which will hopefully be adopted over the next few years to help the development of the industry. Turkey imported over USD 50 million of seed in 2003 the EU is the major supplier. The United States exported USD 9 million of seed to Turkey in 2004, primarily corn, vegetable, and fodder crop seeds. Seed exports increased in 2003, but decreased during the first eight months in 2004. In general, the duty is zero for seed imports, except flower and ornamental seeds imported for commercial purposes.

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Executive Summary

Despite its privatization in the 1980s and continued government support, Turkey's domestic seed production is not sufficient to meet local demand. The Government of Turkey (GOT) has developed several laws and regulation, which will hopefully be adopted over the next few years to help the development of the industry. Turkey imported over USD 50 million of seed in 2003 the European Union is the major supplier. The United States exported USD 9 million of seed to Turkey in 2004, primarily corn, vegetable and fodder crop seeds. Seed exports increased in 2003, but decreased during the first eight months in 2004. In general, the duty is zero for seed imports, except flower and ornamental seeds imported for commercial purposes.

In 2004, Turkey adopted a law on Protection of New Plant Varieties. The primary goal of this Law is to provide protection to any company that develops new plant varieties. Industry sources hope that this protection will also encourage domestic companies to expand their funding on research and development.

After 4 years of development, the Turkish government is close to passing a new Seed Law to accommodate recent developments in the industry. The main purpose of this Law is to provide the private sector a more active role in the seed industry. According to the draft Law, an independent Turkish Seed Industry Union will be established and a significant portion of the Ministry of Agriculture duties and responsibilities will be transferred to this Union. It is expected that the Parliament will adopt the Law during the next few months.

The GOT is also developing a National Biosafety Law (NBL). The technical work on the draft NBL has been completed. However, the law must undergo several reviews before it is ready for adoption. The law will focus on the production, use, importation and distribution of genetically modified materials. For seeds, the Law will provide a framework on the production and marketing of transgenic seeds should be possible.

Certified seed use has not well developed in Turkey. Seed usage is expected to grow in the future in response to growing demand. The growth is expected especially for greenhouse vegetable, corn, sunflower, and fodder crop seeds.

Several U.S. seed companies, including Monsanto, Pioneer, and Delta Pine, are well established in Turkey. These companies generally import parent seed for local propagation and sale both for Turkey and export market.

Production

Turkey's domestic seed production is not sufficient to meet local demand especially for vegetable, fodder crops, pasture and meadow, and corn seeds, as well as seed potatoes. There are 116 private firms and 31 public entities currently produce, procure, import and distribute seeds in Turkey. Ownership of the private companies ranges from 100 percent Turkish-owned to 100 percent foreign-owned, with various combinations in between.

Turkey's seed industry has been a relatively recent phenomenon. Turkey became a member to the OECD certification system and International Seed Testing Association (ISTA). The industry was dominated by the government agencies and they even set the prices until the 1980's when seed prices were liberalized and the sector was privatized. At that time, local and international companies started to invest in the seed sector. The Turkish Seed Industry Association (TURK-TED) was established in 1986.

TURK-TED's major function is acting as powerful lobbying agent, contributing to the development of the sector, and assisting with the transition to the EU system. TURK-TED also assists member firms with studies on seed production, certification, storage, packaging, distribution, and variety breeding. TURK-TED currently has 64 members, which account for at least 90 percent of all private sector seed production. In 2003, privately owned firms produced 100 percent of sunflower seed, 99.7 percent of seed potatoes, 99 percent of vegetable and corn seeds, 50 percent of fodder crop seeds, 20 percent of cottonseeds, 15 percent of barley seeds, and 5 percent of wheat seeds in Turkey. Privately owned firms also registered 90 percent of wheat, 87 percent of barley, 51 percent of cotton, 24 percent of corn, 22 percent of vegetable, 19 percent of sunflower, 17 percent of potato, and 4 percent of sugar beet seeds registered in Turkey.

Each year the Ministry of Agriculture announces a Production Program, which sets production goals for the Turkish sector. The program is established jointly with both public and private seed producers based on the country's domestic needs as well as export goals. The program's goals, as illustrated in Table 1, are not always met which necessitates the use of stocks.

Illegal entries of expensive greenhouse vegetable seeds create unfair competition against firms, which are investing in this sector.

Consumption

Certified seed utilization has not developed well primarily because of the economic situation in Turkey. Forty percent of Turkey's population resides in rural areas and the many are subsistence farmers. However, they have some of the lowest income levels in the country. As a result, their ability to buy certified seeds is limited. In addition, the economic crisis in 2001 depressed the market. Since 2003 however, utilization seems to have recovered. Certified seed utilization is expected to grow in the future in response to growing demand, especially for greenhouse vegetable and corn seeds. Demand for hybrid sunflower and fodder crop seeds are also expected to increase. GOT limits imports on poultry and livestock as well as high tariff rates on other products are encouraging domestic production, and as a result, demand for certified seeds.

Increased crop production in The Southeastern Anatolia Project (GAP) has contributed to the increased demand for seeds. Cotton has been the most popular crop for farmers using irrigated fields in the GAP. Other crops, especially corn, are expected to grow in the region. The GOT is supporting the livestock sector, which in turn, is encouraging farmers to use more of fodder crop seeds.

Certified seed utilization varies a lot by type of seed. Table 2 represents certified seed needs, distribution, and ratios of the certified seed distribution over total need by seed variety in Turkey. As Table 2 indicates, farmers' use of certified seed is much less compared to expected demand.

Table: 1 Certified Seed Production and Distribution in 2003 and Program for 2004.

Type of Seed	Programmed for 2003 (MT)	Produced in 2003 (MT)	Distributed in 2003 (MT)	Programmed for 2004 (MT)
Wheat	291,958	100,825	99,101	299,490
Barley	28,070	11,314	11,458	20,602
Rye	na	120	--	5
Corn	18,065	9,337	10,688	8,812
Paddy	1,427	1,298	1,359	1,559
Chick peas	880	181	119	102
Dry beans	62	8	22	22
Sunflower	6,145	5,311	1,892	5,036
Potatoes	64,306	27,885	28,910	85,980
Soybeans	585	597	489	697
Peanuts	na	20	1	300
Sesame	na	2	--	3
Cotton	10,183	11,252	9,580	9,000
Vegetable	2	3	2	3
Alfalfa	508	273	370	488
Sainfoin	1,095	883	478	1,550
Vetch	1,769	1,640	1,098	2,711
Fodder beets	90	38	26	70
Sudan grass	6	6	7	6
Sorghum x Sudan grass	125	130	132	140
Fodder Turnip	na	--	--	2
Pasture and meadow	630	394	2,490	755
Sugar beets	na	1,233	1,398	2,940

na: Not available

Source: 2004 National Seed Procurement, Distribution, and Production Program

Table: 2 Seed Need, Distribution, and the Ratio of Distribution/Need

Type of Seed	Planting Area (000 Ha)	Seed Need (Kg/Ha)	Replace Period (Year)	Est Total Seed Need (MT)	Dist. in 2003 (MT)	Ratio of Distrib. /Need (%)
Wheat	9,350	200	3	623,333	99,101	13
Barley	3,640	200	3	242,667	11,458	3
Hybrid corn	550	30	1	16,500	10,688	65
Paddy rice	59	200	2	5,900	1,359	19
Chick peas	645	100	5	12,900	119	2
Dry beans	175	100	5	3,500	22	1
Hybrid Sunflower	510	4	1	2,040	1,892	88
Potatoes	200	3,000	2	300,000	28,910	8
Soybeans	17	90	1	1,530	489	42
Peanuts	27	50	1	1,350	1	0
Cotton	685	20	1	13,693	9,580	66
Vegetable	799		1		2,013	
Alfalfa	249	20	4	1,245	370	29
Sainfoin	105	80	3	2,813	478	26
Vetch	240	90	5	4,320	1,098	30
Sudan grass	8	30	2	122	7	25
Fodder beets	3	30	2	47	26	65
Sugar beets	359	4	1	1,435	1,398	97

Source: 2004 National Seed Procurement, Distribution, and Production Program

The General Directorate of Agricultural Enterprises (TIGEM), which operates under the Ministry of Agriculture, is TURK-TED's only public member. For the last fifty years, TIGEM has been the major government entity carrying out seed propagation and distribution. TIGEM is still a significant producer of cereal, cotton, and fodder crop seeds, even though its responsibilities have significantly diminished in recent decades. TIGEM also produced some cotton and corn seeds with contract farming in 2003. From time to time, the quality of some seeds produced by TIGEM receives complains as they do not meet the quality demanded. The GOT eliminated most of the seed subsidies and now TIGEM farms are operating under commercial rules. (However, they still do not pay rent for their land.) Private firms are generally discouraged from producing those types of seeds that are being produced by TIGEM. Table 3 provides the total quantities of seeds (certified at all levels plus controlled) produced and distributed in 2003 and produced in 2004 by TIGEM. TIGEM also produces seeds to be planted on their own farms in addition to those provided in Table 3.

Trade

Due to shortfalls in production and quality, Turkey must import most seed varieties. Corn, sunflower, cotton, vegetable seeds and seed potatoes are the most prominent imports. Depending on supply and demand, other seed varieties may also need to be imported. Turkey imported wheat seed in 2003 and sunflower, sugar beets, and pulse seeds in 2003 and 2004.

The current regulation on Plant Quarantine hinders imports of seed and has created significant problems. All imported seed must be tested. Tests on imports take long time, usually about a week, because customs do not have laboratories and samples are sent to the nearest research institutes. This time is even longer, if there is a dispute on findings since reference laboratory is in Ankara. New laboratories at customs are being planned which will hopefully alleviate the situation. Importers also need import licenses to import seed and

only those firms, which are producing, procuring, and marketing seeds domestically are provided import licenses. Some organisms, which affect only the quality, are also included into the Quarantine Regulation. Tolerance levels for quality related harmful organisms are not established. Ministry of Agriculture officials promised to study the situation and establish tolerance levels for each organism.

Table: 3 The Quantities of Seeds Produced and Distributed in 2003 and Produced in 2004 by TIGEM

Type of Seed	Produced in 2003 (MT)	Distributed in 2003 (MT)	Produced in 2004 (MT)
Wheat	227,102	89,228	280,703
Barley	17,955	10,330	20,160
Rye	719	109	593
Cotton	2,260	1,914	494
Corn	4,003	3,955	367
Sunflower	112	62	50
Dry beans	4	3	5
Chick peas	148	56	37
Paddy rice	70	40	268
Alfalfa	249	126	225
Sainfoin	1,214	274	1,006
Vetch	1,476	878	1,713
Pasture and meadow	23	4	16

Source: The General Directorate of Agricultural Enterprises (TIGEM)

Turkey imported approximately 17 TMT of planting seeds worth approximately USD 54 million in 2003. During the first eight of 2004, Turkey imported approximately 28 TMT of seeds worth of approximately USD 54 million. This is primarily because of increased imports of less expensive commercial seeds than parent seeds, especially for corn. A stronger Turkish Lira and weaker dollar also contributed to this situation.

U.S. seed exports to Turkey have increased significantly in 2004, from around USD 4 million in 2003 to about USD 9 million during the first eight months in 2004. Most of this increase was due to imports of corn seed. Turkey imported 420 MT of corn seed for approximately USD 1.4 million in 2003 compared to approximately 5 TMT for approximately USD 6 million during the first eight months in 2004. Because of a jump in Turkish demand for corn seed, quantity of imports increased by twelve times while the value of imports increased by only four times. This was due primarily to the imports in 2004 were commercial seeds rather than parent seeds. Due to expanded corn production, farmers demanded more corn seed in 2004. Given the unexpected demand, seed companies had to import commercial planting seeds rather than parent seeds. Under normal conditions, seed companies import hybrid parent seed, propagate and then market them in Turkey and for export. A weak dollar also contributed to the situation. In 2003, seed imports were about USD 3,250 per MT compared to USD 1,230 per MT in 2004.

Turkey exported approximately 19 TMT of seeds worth approximately USD 26 million in 2003. Turkey is projected to export fewer seeds, approximately 6.5 TMT worth approximately USD 14 million during the first eight months of 2004. Decreases were especially significant in corn seeds because producers preferred to market their production in Turkey. On the other hand, exports of cottonseeds in 2004 are exceeding exports in 2003.

TIGEM IS the only public entity involved in seed trade. TIGEM imported 80 MT parent wheat seeds from Italy, but did not export any seeds in 2003. Turkey's seed imports and exports are provided in Table 4 and 5, respectively.

Surplus production is exported primarily to Middle Eastern and European markets.

Table 4: Turkey's Seed Imports

Type of Seeds	Total & Country 2003	Quantity 2003 (MT)	Value 2003 (USD 1000)	Total & Country 2004 (Jan-Aug)	Quantity 2004 (Jan-Aug) (MT)	Value 2004 (Jan-Aug) (USD 1000)
Wheat	Total	1,447	776	Total	0	0
	Italy	1,423	764			
Corn	Total	1,214	4,367	Total	13,610	11,883
	USA	420	1,368	USA	4,915	6,048
	France	188	907	Spain	4,451	1,400
	Spain	153	429	Germany	1,373	414
	Netherlands	134	316	France	1,053	1,367
	Argentina	134	423	Yugoslavia	692	677
Paddy rice	Total	30	19	Total	30	22
	Italy	30	19	Italy	30	22
Potatoes	Total	7,581	4,811	Total	7,774	5,767
	Netherlands	5,046	3,246	Netherlands	4,611	3,629
	Germany	1,145	755	Germany	896	708
	U. Kingdom	1,078	662	U. Kingdom	828	498
	Finland	220	70	Canada	654	367
	France	51	29	France	560	387
Pulses	Total	307	738	Total	167	505
	Spain	131	226	Spain	58	99
	USA	62	141	Chile	41	200
	Italy	40	130	Netherlands	41	132
	Netherlands	39	130	USA	12	49
Soybeans	Total	0	0	Total	5	9
				Italy	5	9
Sunflower	Total	125	2,281	Total	76	2,402
	France	110	2,030	France	41	1,851
	Spain	12	108	Australia	15	241
	USA	1	46	Argentina	10	49
Cotton	Total	79	217	Total	231	471
	USA	44	112	S. Africa	94	74
	Australia	18	64	Australia	73	295
	S. Africa	10	3	USA	53	68
Sugar beats	Total	248	2,608	Total	99	897
	Belgium	201	1,881	Belgium	75	528
	France	42	705	Germany	20	288
Vegetables	Total	3,902	33,911	Total	3,787	28,237
	Bulgaria	2,776	1,258	Ukraine	2,532	1,883
	Ukraine	384	301	Bulgaria	615	330
	Romania	211	154	Netherlands	87	12,972
	Netherlands	140	16,362	Denmark	80	433
	China	114	780	USA	35	1,739
	USA	72	1,700	France	26	4,777
	Israel	5	7,009	Israel	4	4,007
Fodder crops	Total	2,420	4,442	Total	1,995	4,006
	Denmark	776	1,335	Netherlands	456	939
	Netherlands	626	1,183	Denmark	405	770
	Germany	322	554	USA	351	747
	USA	232	616	Germany	341	644
Grand Total		17,353	54,170		27,774	54,199

Source: Official Trade data from the State Institute of Statistics (SIS).

Table 5: Turkey's Seed Exports

Type of Seeds	Total & Country 2003	Quantity 2003 (MT)	Value 2003 (USD 1000)	Total & Country 2004 (Jan-Aug)	Quantity 2004 (Jan-Aug) (MT)	Value 2004 (Jan-Aug) (USD 1000)
Wheat	Total	309	164	Total	14	7
	Tajikistan	300	161	Germany	6	3
				Denmark	6	3
Corn	Total	10,196	12,837	Total	1,905	3,083
	Italy	3,367	4,760	Italy	747	1,067
	Spain	2,953	3,580	Germany	220	405
	France	776	1,058	Netherlands	186	311
	Germany	338	564	Croatia	179	401
	Netherlands	280	397	Spain	137	215
				France	106	175
Paddy rice	Total	1	1	Total	1	1
	Germany	1	1	Germany	1	1
Potatoes	Total	3	4	Total	80	8
	Netherlands	3	4	Iraq	80	8
Pulses	Total	145	156	Total	41	45
	Netherlands	86	59	Germany	17	13
	Greece	25	58	Denmark	5	3
	Germany	18	12	Italy	5	10
Sunflower	Total	2,580	7,208	Total	2,192	6,309
	Spain	714	1,506	Russia	743	1,826
	Russia	566	1,165	Ukraine	509	1,399
	Hungary	456	1,142	Spain	332	542
	France	283	912	Bulgaria	292	1,345
Cotton	Total	984	1,678	Total	1,085	2,565
	Greece	361	216	Greece	664	2,011
	Spain	127	1,149	Spain	206	414
Sugar beats	Total	27	105	Total	24	9
	Germany	23	84	Azerbaijan	24	9
Vegetables	Total	320	2,567	Total	212	1,889
	Greece	151	230	Iraq	137	167
	Iraq	64	59	Greece	44	71
	Romania	55	38	U. Kingdom	9	32
	Netherlands	5	1,734	Canada	9	13
	Japan	1	152	UAE	3	12
Fodder crops	Total	4,450	1,367	Total	947	412
	Italy	2,376	673	Italy	689	196
	Spain	1,055	302			
Grand Total		19,015	26,087		6,501	14,328

Source: Official Trade data from the State Institute of Statistics (SIS).

Stocks

Seed stock data is not available. Neither public entities nor private firms carry over large stocks since they are produced according to the National Procurement, Distribution, and Production Program.

Policy

Turkey adopted its first seed law in 1963 under which the entire industry was under government control. At that time, cereal seeds were given highest priority. Some rights were provided to the private sector in the 1980's that encouraged the private sector to produce, import, and export seeds. In time, the private sector was able to supply most if not all of hybrid corn, hybrid sunflower, and vegetable seeds as well as seed potatoes.

It became apparent in the 1990s that the 1963 law was insufficient to meet the recent changes in the industry because the old Law was primarily focused on cereals and government control. A new seed law has been under development for the past five years. Government, seed industry and university representatives helped prepare the new law, which is currently under review. The new law is currently in the General Assembly and it is expected that after a further review, it will be adopted by the Parliament during the next several months. According to the draft Law, an independent Turkish Seed Industry Union, which will be composed of mostly private sector representatives, will be established and a significant proportion of the duties and responsibilities, now the responsibility of the Ministry of Agriculture, will be transferred to the Union.

Biotechnology is the most significant issue facing the seed industry. Until this time, Turkey has not enacted any regulations on biotechnology. The Ministry of Agriculture has recently prepared a draft biosafety law, due to its adoption of the Cartagena protocol. The Ministry of Agriculture officials claim that the Law will be adopted by the end of 2004 and all related regulations are ready to be implemented immediately after the adaptation of the Law. According to the Law, all products developed using biotechnology must be labeled. The biotech regulation will also cover transgenic seeds and will give guidance for their trials, certification, production, procurement, and marketing.

The GOT adopted the Breeders Rights and Variety Protection Law, which went into effect on August 12, 2004. The Law provides protection for breeding new varieties and registering in Turkey. Adoption of this Law is considered an important step for the development of seed sector and Turkey's becoming a UPOV member.

Recent Turkish governments in accordance with IMF agreements have gradually reduced agricultural subsidies replacing them with a direct income support. One of the programs eliminated was the subsidy for use of certified seeds. In 2004, however, the GOT announced that farmers would be paid a premium of 20 percent of the crop price if they use certified seeds for cotton and soy bean production. No payment has been made yet because there is no money allocated in the budget for this. To encourage the use of certified seeds, the GOT also reduced the VAT ratio from 18 percent to 1 percent in September 2004.

Tariffs

Turkey publishes tariff levels for seeds every year, which is provided in Table 6. However, the Ministry of Agriculture had the right to suspend import duties for most varieties since 1993. The only exception is for flower and ornamental seeds imported for commercial purposes. The same seeds for propagation are also being imported with zero duty. The only changes in the published tariffs in 2004 were a reduction for all other planting seeds from 17.8 percent to 17.3 percent for imports from EU and EFTA countries and from 19.8 percent to 19.3 percent for other countries and for flax fiber seeds from 12 percent to 0 percent for all countries. Table 6 presents officially published but not applied duty rates for imports of various seeds.

Seed imports are restricted to those companies that produce, procure, and market seeds domestically. Farmers Union, Central Union of Agricultural Credit Cooperatives, and related agricultural sales cooperatives are also eligible to import seeds. Importers must have an import license to import seeds from the Ministry of Agriculture. Before being imported, seeds must be grown locally on trial plots and approved by the Ministry of Agriculture.

Table 6: Seed Import Duties as in the 2004 Import Regime

Type of Seed	EU & EFTA Countries (%)	Other Countries (%)
All Cereal (Except paddy rice)	0	0
Paddy rice	10	12
Sunflower	0	0
Soybean	0	0
Peanut	20	20
Rapeseed	0	0
All other oil seeds, inc. cotton, sesame, safflower, palm, and mustard	4	4
Flax fiber	0	0
Hemp fiber	4	4
Tea	4	4
Sugar beets	2.4	3.9
Flower	4	6
Forest tree	4	6
Fruit tree	4	6
All other planting seeds (1209), including vegetables and fodder crops	17.3	19.3

Source: The Official Gazette dated December 31, 2003

Marketing

Several U.S. seed companies, including Monsanto, Pioneer, and Delta Pine, are well established in Turkey. These companies generally import parent seed for local propagation, with most of their production sold domestically.