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Planting Seeds

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Report Highlights:

Russian supplies of planting seeds are drawn from two sources. On one hand, seeds for field crops are collected mostly from the preceding year's harvest while other types of seeds are supplied by commercial suppliers. Although supplies of planting seeds for field crops are expected to improve in 2001 because of the best harvest in three years, the yearly recycling of seeds will keep quality low. Trade in other types of seed is expected to grow slowly, limited mostly by Russia's onerous regulation of the sector. A chronic shortage of inputs reduces returns to investment on quality seeds.

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Executive Summary

Russian supplies of planting seeds are drawn from two sources. On one hand, seeds for field crops are collected mostly from the preceding year's harvest while other types of seeds are supplied by commercial suppliers. Although supplies of planting seeds for field crops are expected to improve in 2001 because of the best harvest in three years, the yearly recycling of seeds will keep quality low. Trade in other types of seed is expected to grow slowly, limited mostly by Russia's onerous regulation of the sector.

While grain seed supplies are adequate, if mediocre, other types of seed supplies are beginning to improve in quality. For example, the shrinking area sown to sunflowerseeds has driven many marginal producers out of production, increasing the use of high-yielding hybrids, which are increasingly supplied by western firms. Sugar beet seed quality has been boosted by investments by sugar processing and trading companies at affiliated farms. Supplies of seed potato remain stable, although seed potatoes imports increased in 2000 to almost 120,000 tons, more than four times 1999's level. Demand for a high quality potato crop has been driven by the processing industry, which is increasingly interested in potato products. More than 90 percent of table potatoes are grown on private farms and household plots that produce for home consumption or a well-known local market. These producers are interested in improvement of seed quality, but are very sensitive to any price increase because of

limited funds. This is analogous to the situation in the vegetable business, although there is increasing large scale production. In 2000, the market for horticultural, flower, and lawn grass seeds recovered after falling sharply in late 1998, driving up commercial imports of these seeds.

Although seed varieties are important, the lack of other inputs keep yields low, especially for field crops. The shortage of agricultural machines alone resulted in grain crop losses totaling an estimated 10 million tons in 2000. As the 2001 planting season gets underway, Russian farmers have only half the tractors and combines they need and only two-thirds of the plows. The 2001 harvest will be further impeded by low supplies of fertilizers and chemicals, despite gradual improvements since 1998. These constraints make it unlikely that seed varieties used on most large farms will improve.

Data on foreign trade in seeds are very limited. After a sharp increase in imports of seeds because of the humanitarian aid shipments from the US, trade in seeds is expected to stabilize at low pre-crises levels. The seed trade is hampered by Russia's strict quarantine measures and an onerous system of variety registration. SAttempts to get exceptions for horticultural, flower and vegetable seeds have made little progress. Recent Ministry of Agriculture implementation of the Federal Laws "On the Seed Industry" and "On Licencing of Seed Producers and Traders" have actually moved more power into the hands of government officials to determine what is produced and marketed as well as where and when. The result is that the Russian seed market is often cut off from competition, blocking seed consumers from access to the latest seed technologies.

Seed Supply and Production

Grain Seeds

Russia is expected to have adequate, if mediocre, supplies of grain seeds in 2001. The supply of planting seeds for field crops improved from a year ago because of the relatively good 2000 grain harvest -- crops increased by almost 20 percent from 1999 to 65.4 million tons. Better growing conditions in 2000 also boosted seed quality. The share of first class and second class seeds rose from 37 percent to 47 percent in 2000. SAlthough most grain is planted using seed from the preceding year's crop, grain seeds still make up an estimated 60 to 70 percent of the planting seed market in Russia by value. Total grain seed requirements are estimated by the Russian Ministry of Agriculture at 8.2 million tons, an amount local supplies are expected to meet in 2001. The crop area sown to grains and legumes has been stable at around 45-46 million hectares since 1998. This is still far below plantings early in the 1990's -- 16 percent lower than in 1995, and 25 percent less than in 1990.

Russian yields are driven more by weather, fuel and machine supplies than seed supplies. For example, Russian officials report that the 2000 grain harvest could have been 10 million tons greater had it not been for machinery and fuel shortages. Although these bottlenecks are slowly easing, the problems are expected to constrain large production increases, even if large volumes of better quality seeds were available. In fact, higher yielding varieties may require more scarce inputs, further cutting their value in the short-term. According to the Russian Ministry of Agriculture, there is a 49 percent shortage of tractors, a 35 percent deficit of plows, and combine supplies are down 53 percent. These difficulties are further aggravated by the poor condition of these machinery stocks -- about 70 percent of farm machinery is working past its designed life span. Although supplies of new machinery are trickling in, it will be some time before they can boost harvests substantially.

In 2001, area sown to grains and legumes is expected to increase by 1.5-2.0 million hectares over 2000 area to

45.6 million hectares, while the official Russian 2001 grain crop forecast is 65-70 million tons. Post forecast is approximately 63-65 million tons. Winter grain crops for 2001 were sown to 14.6 million hectares, a 0.8 million hectare increase from a year ago. It is still about two months too early to estimate winter crop survival rates, but most crops are doing well. Spring wheat plantings are expected to total 14 million hectares, with the total area sown to all spring grains and legumes forecast at 31-32 million hectares.

Supplies of non-grain seeds are expected to be plentiful, although seed quality issues for non-grain crops are more important because of better supplies of other inputs. Increasing commercial production of sunflowerseeds, sugar beets, potatoes for processing, and vegetables is moving production to big farms affiliated with agribusiness companies, especially in the southern parts of Russia. These companies are investing heavily in intensive production for further processing, making quality a crucial element in their operations. These large holdings are likely to show increasing interest in modern seed varieties in the years to come. Most other seed consumers, such as small producers on home plots, will buy what they can afford.

Seed Supply and Production by Region

In 2000, the area sown to grain fell in 8 out of 11 economic districts. It is expected that the concentration of grain production in more productive regions will continue to push down grain area, except in the Volga Valley and Central Black Earth regions. The North, North-West, and the Far East regions will only produce 0.7 percent of Russian grain while the Central, Volgo-Vyatka and the East Siberia regions will produce 10.5 percent of Russian grain. The latter may continue wheat, barley and oat production for feeding and increase rye production for food and green fodder. Decreased planted area and higher than average yields helped these regions boost onfarm seed grain stocks, which will allow them to conduct normal spring sowing in 2001. Due to the severe climate, winter grain production in these regions is very small. There are some early signs that both the quantity and even the quality of seeds is improving in Tatarstan, Samara, Volgograd, Belgorod and Lipetsk. In other regions, area sown increased, but increases in yield was higher than the increase in area, ensuring that these regions will have adequate supplies of on-farm grain seeds for sowing. In the Northern Caucasus, West Siberia and in some Ural oblasts, seed quality also improved.

Table 1 indicates that farms in the Northern Caucasus, Volga Valley and West Siberia (where grain production is 38 percent of the country total) have almost returned to the average grain yields of the early 1990's, while the Black Earth region remains relatively unproductive.

	1986- 1990	1991- 1995	1996	1997	1998	1999	2000 (prelim.)	1996- 2000
Russia, total	1.59	1.48	1.29	1.65	0.94	1.17	1.56	1.32
- North	1.11	1.09	1.22	1.09	0.87	0.59	1.24	1
- North-West	0.97	0.92	1.11	1.02	0.78	0.49	1.05	0.89
- Central	1.57	1.52	1.34	1.48	1.05	0.79	1.45	1.22
- Volgo-Vyatka	1.4	1.48	1.56	1.78	1.01	0.84	1.35	1.31
- Central-Black Earth	2.24	1.99	1.5	2	1.48	1.35	1.68	1.6
- Volga-Valley	1.4	1.31	1.31	1.97	0.58	1.02	1.35	1.25
- North Caucasus	2.93	2.47	1.86	2.12	1.73	2.2	2.33	2.05
- Ural	1.18	1.11	1.15	1.57	0.52	1.15	1.06	1.09
- West Siberia	1.25	1.11	0.96	1.04	0.92	0.93	1.3	1.03
- East Siberia	1.34	1.2	0.98	1.31	1.13	0.99	1.2	1.12
- Far East	1.15	1.03	0.88	0.92	0.94	0.75	0.64	0.83

Table 1. Grain Crop sYields by Major Economic Regions, CY 1986-2000, MT per Hectare

Seed Supply and Production by Commodity

There are no official statistical data on seed production, availability, and distribution. Post forecasts the following tendencies and changes in seed supply:

Supplies of Specific Grains

Grain seed quality improved in 2001 and stocks of seeds on-farm are already enough to sow 31-32 million hectares in spring while replenishing winterkill. Russian officials estimate that wheat, rye, and barley seeds are in adequate supply, although volumes and quality of seeds differ very much from region to region and between different farms. Better-to-do farms often can afford to buy higher quality seeds from seed farms and research institutes, both of which recovered financially somewhat in 2000 from difficult times in 1998 and 1999.

Demand increased but was unfilled for high quality barley seed, especially malting barley seed. Although supplies of quality corn seed remain small, demand is limited by the near impossibility of growing corn for grain outside areas in the south swhere competition is keen from other crops. Demand for corn seed is the highest for fast maturing varieties with an FAO number less than 300. Since outside the south corn is harvested for silage, these crops are too low in value to justify expensive seeds.

Driven by rising demand for locally produced meat, Russian farmers are showing increased interest in oat production, after almost a decade of neglect. However, the area planted to oats is presently sufficient to meet demand.

Sunflowerseed

Supplies of sunflowerseeds for planting are expected to be abundant. Area sown to sunflowers in 2000 decreased by 17 percent, but yields were 14 percent higher than in 1999. Stocks of seeds are enough to meet the producers' demand, and quality is improving. Production is concentrating in regions with better growing conditions and at more competitive farms, often linked with big oil crushing plants in the Northern Caucasus, Black Earth and Volga Valley. Investment in quality sunflowerseeds increased from both private companies and federal and regional programs. Development of new varieties with short vegetation periods (with use of US genetic material) recently allowed sunflowerseed production as far north as Oryol oblast. However, the twofold increase in export tariffs on sunflowerseeds, rapeseeds and soybeans to 20 percent may weaken incentives to invest in sunflowerseed production.

Rapeseed

Work on reviving rapeseed production continues. The supply of rapeseed in 2001 is expected to be enough to increase plantings of rapeseed in Northern and Central Russia. However, incentives for further improvement in rapeseed quality will depend on rapeseed prices and demand from the feed industry.

Ornamental Seeds

The market is recovering after a steep fall in 1998-1999. Russia imports many of its ornamental seeds from abroad, especially from Western Europe. Traders and consumers have recovered from the August 1998 crisis, despite imports of these seeds being hampered by government registration requirements. However, traders report that supplies are increasing and diversifying. Independent traders noted that after the 1998 crisis, demand remained stable for staple vegetables, but fell for flowers until 2000 when demand for flower seeds rose almost to pre-crisis levels.

Sugar Beet Seeds

Demand is expected to increase while supplies hold steady. Although area sown to sugar beets decreased and prices of domestic sugar beet are not competitive with international prices, domestic sugar beet production is getting federal support. This is through high levels of tariff protection and support from the big vertically integrated sugar companies, which started to invest in sugar beet production, including suppling Russian farmers with better seeds. The Russian Sugar company (part of Razgulyai-UKRROS group) plans to increase its investments in sugar beet and sugar production in Russia by 2-2.5 times. In 2000, the company invested nearly \$1 million to provide beet farms and sugar factories with seeds, mineral fertilizer, fuel, and machinery.

Potato Seeds

The supply of potato seeds is sufficient to meet present demand. The area sown to potatoes remains stable. More than 97 percent of production is concentrated on private farms and individual household plots. Demand for seed potatoes has shifted from quantity to quality (high yields, better resistence to pests and diseases, better storing characteristics). Imports of potato seeds are significant, but the government is trying to encourage the breeding of high quality potatoes domestically by bringing in investments from foreign seed companies interested in working with local partners on research and development projects.

Vegetable Seeds

Demand for staple vegetables like carrots, red beets, cabbage, onions, cucumbers and tomatoes is expected to remain strong, with no shortages expected in 2001. The structure of demand is changing because commercial producers of staple vegetables are increasing production near big metropolitan areas and in the south of Russia. At the same time, the ongoing recovery of the canning industry will result in increased investment in production of vegetables for canning. This will eventually require better seeds. US shipments of some vegetable seeds in 1999 and 2000 also increased supplies of these seeds and curbed price hikes. At the same time, individual customers were better able to buy vegetable seeds. Demand expanded to a wider range of varieties. The most significant impediments to further progress are the registration requirements.

Fodder Grass Seeds

Production and imports of perennial fodder grass seeds increased at the end of the 1990's. This increase has been driven by the strengthening demand for feed and the depletion of soils in many former grain producing regions. According to officials, production of seeds of fodder grasses decreased in the 1990's by 60 percent, while the use and quality of seeds deteriorated significantly. For example, fields sown to clover are used for 4-5 years instead of being re-sown every second or third year. Humanitarian imports of alfalfa seeds were welcomed by the Russian government. These seeds were bought by large animal farms, with good results. At present, alfalfa makes up 15-18 percent of all fodder and pasture grasses in Russia.

Seed Quality

Seed quality in 2001 has improved from 2000. This improvement partially resulted from a better grain crop in 2000 that allowed farmers to accumulate more grain on-farm. The second reason for the improvement is increased investment of vertically integrated farms and agribusinesses. The third reason is humanitarian aid that provided some improved yield varieties. Although shipped on a temporary basis, these donated seeds showed positive results and acquainted Russian farmers with high yield modern hybrids (peas, alfalfa, corn), while the money generated from the sale of these seeds assisted seed research institutes. Table 2 shows the yields of different crops in 2000 and in a historic retrospective. However, financial problems still drive farmers to use lower yielding but less input demanding varieties.

Table 2. Yields in Metric Tons per Hectare, 1986-2000 (5 years average), 1996-20
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Crop	1986- 1990 (avg.)	1991- 1995 (avg.)	1996	1997	1998	1999	2000 (prelim.)	1996- 2000 (avg.)
Wheat	1.77	1.61	1.35	1.7	1.03	1.34	1.48	1.38
Rye	1.64	1.56	1.43	1.87	0.87	1.41	1.54	1.42
Barley	1.69	1.55	1.35	1.66	0.87	1.08	1.54	1.3
Oats	1.28	1.24	1.2	1.46	0.89	0.82	1.33	1.14
Corn	2.87	2.52	1.75	2.91	1.04	1.52	1.88	1.82
Millet	1.19	0.65	0.35	1.12	0.46	0.57	0.71	0.64
Buckwheat	0.56	0.45	0.35	0.56	0.37	0.43	0.63	0.47
Rice	3.49	2.76	2.28	2.17	2.84	2.56	3.31	2.63
Peas and pulses	1.13	1.16	1.25	1.33	0.81	0.82	1.3	1.1
Sunflowers	1.27	0.99	0.71	0.79	0.7	0.74	0.9	0.77
Rapeseed	0.68	NA	0.66	0.62	0.63	0.65	0.66	0.64
Sugar beets	22.5	17.8	15.2	14.8	13.4	16.9	18.8	15.82
Potato	10.8	8.8	11.4	11.1	9.7	9.7	10.4	10.5
Vegetables	15.4	13.8	13.7	14.1	13.4	14.3	14.5	14

Consumption

Consumption of seeds is limited by the poor finances of farmers and by the shortage of other inputs. Low consumer demand for improved staple agricultural products also slows investment in the seed industry. Post forecasts unchanged levels of planting seed consumption in grains and oilseeds. Demand for high quality and more diversified potato and vegetable seeds may increase, especially in large-scale commercial production. Consumption of some higher yielding varieties may increase for some products such as sunflowerseeds and sugar beets.

Trade

The August 1998 crisis allowed domestic seed producers to become more competitive, while the subsequent stabilization of the ruble gave traders the means to import seeds commercially. Imports of field crop seeds are not attractive for traders because prices are too high for domestic consumers, who are often in bad financial shape. However, commercial imports of vegetable seeds, flowers, corn, and feed grasses are expected to improve. Table 3 shows the volume of seed imports in 1996 through 2000.

	1996	1997	1998	1999	2000
Corn seeds (1005.10)	14,370	31,420	8,700	25,256	29,818
Feed Grass Seeds, total	763	597	N.A.	706	3,257
Including:					
Alfalfa (1209.21)	97	93	25	27	2,341
Clover (1209.22)	74	58	N.A.	33	68
Fescue grass (1209.23)	141	110	N.A.	72	115
Kentucky blue grass (1209.24)	47	27	N.A.	35	59
Rye grass (1209.25)	84	66	N.A.	114	330
Timothy grass (1209.26)	11	8	N.A.	6	15
Seeds of other grass plants (1209.29)	309	235	N.A.	421	584
Seeds of herbaceous plants cultivated for flowers (1209.30)	24	27	N.A.	66	19
Seeds of other herbaceous plants and forest trees (1209.99)	314	281	N.A.	111	359
Seeds of vegetables, except red beet and peas (1209.91)	743	706	800	666	948
Red beet seeds (1209.19)	N.A.	N.A.	N.A.	219	672
Seeds of potato	N.A.	N.A.	10,287	27,794	119,793
Sugar beet seeds (1209.11)	1,262	1,027	N.A.	419	380

Table 3.	Seed Imports,	1996-2000,	Metric Tons
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Sources: State Statistical Service, Russian Customs Statistics

Imports of corn seeds were stable in 1999 and 2000 because of corn seed shipments from the US. Sharply increased imports of seed potato may not include other types of potatoes, because potato seeds are imported duty free, while other potatoes are subject to a 25 percent import duty.

US shipments of planting seeds to the Russian Federation in 1999 and 2000 played a significant role in trade during those years. In 1999, Russia received 15,000 tons of planting seeds from the US, including corn, pea, carrot, beet and onion. Vegetable seeds were sold through "RosSortSemovosh" while pea seeds were sold through "Roskhlebproduct" to big farms specialized in commercial pea production for canneries. Corn seeds were sold to farms with diversified grain-animal production -- corn was mostly grown for green fodder. In 2000, Russia received 11,575 tons of corn seeds, 1,510 tons of pea seeds, 2,515 tons of seeds of oats, 1,992 tons of alfalfa seeds and more than 1,154 tons of vegetable seeds, including beans, onions, carrots, red beets, radish, cucumbers, lettuce, peppers, eggplant, and squash. The seeds were auctioned through "Rossiyskiye Semena".

The most significant increase in imports in 2000 was of feed grass seeds. Apart from the 1,992-ton humanitarian shipment of US alfalfa seeds, commercial imports of feed grass seeds increased from 706 tons in 1999 to 1,265 tons, and were significantly higher than in the 1996-1998 period. They are expected to continue rising.

Tariffs

Table 5 provides information on current import and export tariffs for planting seeds. Import tariffs have not changed from last year except for rapeseed and sunflowerseed. Starting January 1, 2001, import duties were set at 5 percent (before January 1, 2001 these seeds were imported duty free) for a period of nine months. Export duties on soybeans, rapeseed, and sunflower planting seeds have been extended indefinitely from the original period from January-June 1999 and, by the beginning of the 2001 harvest, these duties may increase to 20 percent and not less than 30 Euro per metric ton for sunflowerseeds, and 20 percent but not less than 35 Euros per metric ton for soybeans and rapeseed.

Table 5. Import and export tariffs for planting seeds

Code	Commodity	Import	Export
0701.10.100 0	Potato seeds	Free	Free
1001.10.100 0	Durum wheat seeds	5%	17%
1001.90.100 0	Wheat seeds, other	5%	7%
1001.90.910	Soft wheat seeds	5%	7%
1003.00.100	Barley seeds	5%	Free
1004.00	Oat seeds	5%	Free
1005.1	Corn seeds	5%	10%
1006.10.100	Raw rice for sowing	5%	Free

1007.00.100	Grain sorghum seeds	5%	Free
Chapter 12 (Seeds for sowing)	Seeds for Grains, Seeds and Fruit; Industrial Or Medical		Free
	Except:		
1201.00.100	Soybean seeds for sowing	5%	10% but not less than 20 ECU per 1,000 kg
1205.00.100	Rape and colza seeds, for sowing	5%	10% but not less than 20 ECU per 1,000 kg
1206.00.100	Sunflowerseeds for sowing	5 %	10% but not less than 15 ECU per 1,000 kg

Value-Added Tax

Grains, oilseeds and some grass seeds are subject to a 10 percent VAT while seeds for lawn grasses, vegetables and flowers face a 20 percent rate.

Stocks

Although official data are not available by type of seed, stocks of most seeds are adequate for current levels of demand, although quality of seeds remained low, especially for field crops.

Policy

Plant Variety Protection and Seed Certification

Seeds are allowed to be sold and used in Russia only after being included in the "State Register of Selection Achievements, Permitted for Use." In order to be registered, seeds must pass through special testing procedures in the laboratories of the Goscomissiya, State Commission of the Russian Federation for Selection Achievements, Testing and Protection, which is an independent arm of the Russian Ministry of Agriculture. Goscomissiya registers varieties, hybrids, and seed technologies. In addition to passing at the national level, seeds must also be certified for each of the seven economic regions where they will be planted. Imported seeds also face competition from local varieties that are developed and tested in the same laboratories. Testing of foreign varieties and hybrids takes approximately three years, expenses are high, and the results not always predictable, because not all laboratories follow required agronomic practices for the variety under examination. As a result, the overwhelming majority of seeds in the Register are of Russian origin. Russian sources have indicated that it is very unlikely that they will accept foreign testing.

Another agency within the Ministry of Agriculture is the Federal State Seed Inspection Service

(Gosseminspectsiya) which works through a network of local field agents. It supervises the production, procurement, handling, storing, sale, transportation and use of all planting seeds. Inspectors have the right to control the quality of seeds at all stages, and withdraw seeds from use or prohibit harvesting of planted areas when they find violations in use of seeds or in documents confirming their quality. The inspectors also have the right to prohibit distribution of imported seeds if these seeds do not meet the state standards of the Russian Federation. They enforce bans on distributing seeds not included in the state Register. The activity of this agency increased markedly after the 1997 Federal Law "On the Seed Industry". In implementing this law, the Ministry of Agriculture developed and issued more than 20 different regulations aimed at strengthening the controlling role of the Seed Inspection Service. The regional branches of the Seed Inspection and sale of seeds. According to Russian law, after the variety is patented in the Russian Federation, this variety cannot be exported for the next 4 years, which actually prohibits mutual research in variety development with foreign companies, cutting Russian researchers off from the benefits of trade.

The third major institution influencing the use of imported seeds in Russia is the State Plant Quarantine Service, which is also an independent arm of the Ministry of Agriculture. This agency issues quarantine certificates for all imported seeds, plants, and products. Testing of imported products usually occurs at the border and in the oblast for which it is destined. At the same time, deteriorating on-farm experience and falling pesticide use have caused the Quarantine Service has become more aggressive in dealing with phytosanitary concerns. The decline in Russian agriculture's ability to fight pests is substantial: According to officials from the Service, it is only 40 percent as active as it was 10 years ago and must often make do with a small budget and old equipment (although some regions like Tartarstan try to make up the difference). On top of this, the Service is often relegated to making recommendations to farmers who are supposed to do the actual treatment. Given the dire state of farm finances, many pest problems end up uncontrolled.

Different and sometimes conflicting ministerial instructions also make the paper work for seed imports complicated. Currently there are competing seed associations. The Russian Agriculture Ministry sponsored the creation of the All-Russian Seed Association, which represents its interests. On the other hand an alternative association, the Russian National Seeds Association (RNSA) was created by the independent seed companies, which produce, buy and sell so called "non-industrial" seeds, like seeds of vegetables, flowers, lawn grasses, plants, herbaceous, decorative and exotic plants. This association tries to encourage agricultural policy to use market-oriented approaches to quality guarantees and improvements, and the certification and testing of seed varieties.

Individual seed companies complain that the laws on licencing and certification have too many features inherited from the times of strict state control and planned distribution of seeds among the state owned farms. As a result the system is lagging behind market requirements, especially in the flower, vegetable and horticultural sectors. According to RNSA, quality control is much better and easier at the company itself, because the private company guarantees this quality to preserve its reputation. Moreover, customer demand and technology are changing so rapidly that the present system of testing and registration of new varieties cannot keep up. Foreign varieties of seeds usually change every three years, the exact period for "proper testing for approval and registration" in accordance with Russian law. One example of this is that more than 3,000 different varieties of violas are marketed in the world, while only 10-15 varieties (all outdated) have been included in the list of varieties officially approved for marketing in Russia. Failure to change the current system will ensure that Russian seed genetics falls further behind other countries.

Russian federal budget subsidies of seed selection virtually ended by the mid 1990s, with only a slight restoration in 2000, when the government earmarked subsidies for the development of so-called Elite (Foundation) seeds and for the Establishment and Use of Federal Seeds Fund. In 1999, total allocations for this Fund were 100 million rubles (\$4 million), in 2001 they will increase in ruble equivalent to 150 million rubles (\$5.5 million). Subsidies for development of the Foundation seeds are set at 250 million rubles (\$9.7 million). These subsidies are not enough for serious research, especially because of past neglect and because the Russian institutes need strong injections of foreign genetic material and new technological developments. While the use of modern genetic technologies allows foreign seed companies to develop a new hybrid in one year, the best Russian institutes need at least 5 years to do so. But at the same time, the specific soil and climate conditions of Russia make overseas production of hybrids for Russia extremely difficult.

Genetically Modified Organisms

The use of biotechnology remains relatively uncontroversial in Russia despite the intense debate in the nearby EU. This relative quiescence is in part due to the neutral to friendly attitude most officials and scientists have toward biotechnology. Development and use of Genetically Modified Organisms (GMOs), also known as transgenic organisms, is seen as a way to increase Russian agricultural production, while improving food availability for the population. The local food industry's concerns tend to focus on how an arbitrary bureaucracy might use the presence of GMOs in products to harass companies with more costly "inspections".

Interest in GMOs has also been muted in the Russian media. Environmental groups represent the most likely source of negative publicity for GMOs. Recent experiences indicate that attempts by television (most recently NTV) and newspapers to generate controversy are met with apathy by the general population.

Although GMOs have generated little public debate to date, this could change rapidly because of controversies in the EU, and increased activities by outside environmental groups. In addition, some European companies follow a non-GMO policy even in Russia. Other recent events that could trigger a reaction against GMOs are Ukraine's stopping the approval of GMO potatoes and a recent non-governmental organization's report attacking Russia's GMO regulations as being too lax.

GMO Regulations

The Ministry of Health issued a consumer labeling law effective July 1, 2000, for GM food products. All protein-containing products (such as vegetable oils, starches, etc.) containing more than 5 percent GMOs must be labeled accordingly. However, in November, these regulations were made optional. As a result, there is at this time virtually no labeling of GMOs.

The Ministry of Health (MOH) currently requires GM food products to be registered. An application must be submitted to MOH with all relevant scientific data and testing procedures already completed. The applicant must submit testing data and product samples. If the product is deemed to be unsafe, a certificate will not be issued. There are different procedures for registering GMOs for food and for animal feed use.

To get permission for environmental release, the GMO must be first approved for food use and then separately for crop use. The recent elimination of the State Environmental Committee, which was supposed to approve

GMOs for environmental release has complicated the approval process because there is no body prepared to approve GMOs. Registration is initially valid for three years, but renewals may be issued for five years. Renewals for use in animal feed are made yearly and at much higher cost.

Marketing

Market Development Opportunities

In 2000, the Russian seed market remained difficult for commercial foreign seed exporters because of restrictive import and variety registration regulations. In 2000, the ruble was stable and the financial status of farms, traders and bankers improved, removing this constraint on trade. The most important non-regulatory limits on the commercial purchase of seeds are the relatively high prices of imported seeds and the need of farmers to buy other inputs. Some imported varieties are not well suited to Russia's short growing season. However, the increasing tendency to concentrate production at the big vertically integrated farms may open new opportunities for commercial imports of hybrid seeds. Increasing developments in the Russian seed industry and in research may stimulate imports of foundation seeds and lead to mutual research in new directions, including GMO seeds.

Marketing Channels and Facilities

Credit terms: The bank loan interest rate for private seed companies is 35 percent, while the interest rate for the state farms (or former state - privatized JSCs) is 18 percent.

Rossiyskiye Semena (Russian Seed company) remains the biggest seller of packet and grain seeds in Russia and the largest seed importer. The company sells feed, fodder, vegetables and flower seeds. Russian Seeds often serves as an official agent for the Russian Ministry of Agriculture and has distributed seeds in poorer regions in the North and Siberia with sales guaranteed by the Russian Agriculture Ministry. Russian Seeds was selected by the Ministry of Agriculture for participation in the 2000 US - Russia agricultural assistance program.

Another channel for imports of grain seeds is Exportkhleb, which supplies grain seeds to big commercial farms.

The private seed companies started to recover from the 1998 August crisis, and increased imports of seeds of vegetables, flowers and decorative plants. Some petroleum companies have increased their activities in the agricultural sector by providing seeds as well as other inputs, to farmers in exchange for grain and sunflowerseeds. This kind of barter system, where farmers pay seed companies for seeds provided in spring with grain and other harvested products, helped both farmers and some seed suppliers to survive. Fortunately, the role of barter in the seed business is decreasing and is being replaced either by cash sales of seeds to independent farmers, or supplying of seeds to farmers who have some kind of structural (land tenure) relationship with the holding agricultural company.

Trade in high quality imported seeds in Russia is also limited by the tendency of foreign firms to sell their products at high prices. Thus, if the distributer is given the right to package some varieties of branded seeds (very few Russian companies have this right), costs can be reduced, especially if there are groups of specialists who can control proper use of seeds to guarantee high quality results and to avoid misuse.

Market Opportunities

Russian importers are most interested in varieties that are tolerant of cold conditions, produce high yields and can mature quickly in Russia's short growing season. As a result of Russia being located substantially further north than the US, it gets significantly less sun and more cold than the latter, limiting the growing season to less than 100 days -- although varieties that can mature in 80-90 days are even more sought after. Importers state that the strongest opportunities are for US exports of sunflowerseed and corn seed with a short vegetation period, some vegetable seed, and seeds of feed grasses such as alfalfa. However, U.S. seeds are too expensive for many Russian farmers.

Sunflowerseed

Importers are interested in fast growing sunflowerseeds that can grow north of traditional producing regions in European Russia. This would greatly enhance oilseed supplies. Most imported sunflowerseed comes from Hungary and France.

Corn seed

Because of Russia's short growing season, it is difficult to grow corn for grain outside of the North Caucasus and Volga. Other regions grow it for silage and for green chop. Consequently, because of this, Russia is interested in varieties less than 300 FAO -- which will have time to mature during Russia's short growing season.

Vegetable seed

Demand for vegetable seeds is expected to remain strong for the foreseeable future. Demand is strongest for peas for industrial processing and canning.

Other seeds

Trade sources also expressed interest in malting barley, flower, fast growing soybeans, and grass seeds, especially alfalfa. With rapidly growing beer production and increasing investment in domestic barley production, Post expects demand for seed to grow strongly. Increasing interest in soil fertility and livestock fodder should also keep demand for alfalfa seed strong.