

POSTHARVEST INSTITUTE FOR PERISHABLES



NIS Potato Storage Project

in

Russia and Ukraine

September 1993

PD-ABH-100

POSTHARVEST INSTITUTE FOR PERISHABLES

POTATO PROCESSING POTENTIAL IN RUSSIA AND UKRAINE

Cooperative Agreement NO: CNN-0006-A-00-3007-00

for

USAID/NIS Task Force

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September 1993

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I. Introduction

The scope of work for this project called for investigations to evaluate the potential for a processed potato industry in the countries of Ukraine and Russia. Six working days were spent in Ukraine and five working days in Russia on the project.

My host in Ukraine was the Ukrainian Institute for Potato Research which was responsible for setting up a working agenda for me to contact various potential private companies wishing to enter the potato processing business.

My host in Russia was the Russian Potato Concern which was responsible for setting up appointments to visit with two private organizations that wanted to discuss processing possibilities.

The time constraint given by the Russian and Ukrainian organizations was insufficient to conduct an indepth analysis. This consultant visited several state factories and some previously state owned enterprises to quickly observe what they were doing and to compare these operations to Western type facilities. At best this report will be very cursory in future potentials of developing a potato processing industry in Russia and Ukraine.

II. Country Background

A. Ukraine

A little smaller than Texas, Ukraine is mostly plains, except for the Carpathian Mountains in the west and the Crimean Mountains along the southern edge of the Crimean

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Peninsula. It is the second most populated republic of the former USSR. Ukraine has often been referred to as the "breadbasket" of the former Soviet Union because of its significance in agricultural production. Its land resources and climate offer great potential to this area. With these rich resources, the agricultural sector produces a variety of commodities, including grains, fruits, vegetables, meat, milk, eggs, potatoes, sugar beets, and various oilseeds.

During the 1986-90 period, as a share of the former USSR total, Ukraine produced 54 percent of all sugar beets, 24 percent of grains, 25 percent of potatoes, 26 percent of vegetables, 28 percent of fruits, 23 percent of milk, and 21 percent of eggs.

Ukraine has been a net exporter of agricultural products in inter-republic trade, while at the same time registering a trade deficit in foreign agricultural transactions.

Some of the problems Ukrainian agriculture is now facing are consistent with the problems and inefficiencies of the other countries of the former Soviet Union (i.e., lack of inputs, spare parts, and modern or adequate storage capacities). Inflation, high interest rates, lack of a stable system of currency exchange rates, lack of equity investment structures, and no agricultural commodity stock exchange or structure all dampen agricultural development.

Ukraine reportedly produced an estimated 15 million metric tons of potatoes in 1990 and in 1991. In perspective this is approximately the amount of potatoes produced in the whole of the U.S. (18 million metric tons).

B. Russia

The Russian Federation (Russia) spans Europe and Asia, with the large plains of the European section being interrupted by the Ural Mountain chain generally accepted as the delineation between Europe and Asia.

Russia is the largest of the former Soviet Republics, stretching from the Baltic Sea to the Pacific Ocean, and from north of the Arctic Circle to the Black and Caspian Seas. With an ethnically diverse population of nearly 150 million, Russia accounts for a little more than 50 percent of the population of the former USSR.

Russia is a major producer of small grains, sugar beets, sunflower seed, flax, potatoes (30.9 million metric tons '90, and 37.8 million metric tons '91), vegetables, and fruits. Production of corn and soybeans is not highly developed and is hampered by the relatively far northern location of Russian growing areas.

Private farmers continue to face difficulties in obtaining most farm inputs. Crops from private holdings will probably be largely limited to backyard garden type production for the near term.

III. Major Processed Potato Categories to Be Considered in Ukraine and Russia

Dehydrated: (1) potato flakes; (2) potato granules; (3) potato slices, dices and/or shreds;

(4) potato starches; (5) dextrose; (6) highly complex chemical products, i.e., dextrin, glue, glycerol and poly-glycerol).

Dehydro-frozen: various cuts and sizes of potatoes processed to reduce the weight of moisture by fifty percent and then individually quick frozen (I.Q.F.), which are best suited to be further processed in various kinds of canned soups, stews, salads and other consumer food products.

Frozen Potato Products: such as frozen french fried potatoes, slices, hash browns and various forms of pre-formed patties and other finger type fried foods. In addition, small whole frozen boiler potatoes would fit in this category.

Canned Potato Products: such as small whole boiler potatoes, Borscht soups, and possibly stews and other consumer food products.

Fried Potato Snacks: such as potato chips and potato sticks and other processed fried potato snacks.

IV. Potential Markets for Processed Potato Products

With 200 million people, one cannot overlook the development of the Ukrainian and Russian domestic markets.

- Presently there is no infrastructure to support a frozen potato market for retail; however, with more and more private retail grocery type shops opening up it would not be too difficult a task to have frozen retail type freezers installed. With some market training

and development, the consumers could be educated on the economic reasons/justifications to purchase convenience type foods.

- Numerous kiosks (small retail stalls) are selling imported western type potato snack foods. There exists an unfulfilled need to have a good domestic brand of potato chips, sticks and /or fabricated type potato snack foods that could be produced cheaply and would be attractive to consumers.
- Numerous state operated canneries produce many kinds of canned (bottled) vegetables; however, there is an absence of a convenient size container with a quality canned potato for boiling.
- There exists an unfulfilled need to have casserole types of potato dishes, i.e., scalloped, au gratin and other baked dishes that might be formulated to the tastes of the consumers. If dehydrated slice/shreds/diced complete potato dinners could be available, at affordable prices, it would seem logical that there could be a sizeable market for such products.
- Starch from potatoes is already produced in Ukraine and Russia.

Former Eastern European countries such as: Romania, Bulgaria, Czech and Slavic Republics, and Hungary could be potential sales markets for Ukrainian and Russian potato

products.

Former USSR areas such as Belarus, Georgia, Armenia, Azerbaijan, Kazakhstan, Kyrgystan, and Tajikistan might be possible target countries. Most of these countries, however, also grow potatoes and they too will most probably be investigating possibilities to enter into potato processing.

Many see the European Community (EC) as a target market for processed potato products. However, it is already known that many of the EC potato processors are gearing up to move their processed potato products into many of the former USSR countries. Expert opinion would discourage putting much effort into moving processed potatoes into the EC.

International exports of processed potatoes into countries such as Greece, Turkey, Saudi Arabia, Kuwait, U.A.E, Qatar, and Oman may have some potential. That is if the quality is good, with acceptable modern packaging and with the ability to meet import laws which most countries have in effect.

In Russia, the following observations are made in regards to potato processing.

- The savings of energy should be an important part of the equation to consider. It is reported that a high percentage of all potatoes grown and delivered to the consumers are lost due to decay and spoilage. If processed potatoes could be delivered in stable forms (dehydrated, canned or frozen) to consumer markets, considerable savings in total energy could be realized to produce and handle the raw unstable form. In addition, since raw potatoes require considerable more time for meal preparation, additional savings in energy would be saved by using the processed form.

- It is reported that potatoes are grown in significant quantities in 11 major geographic regions across Russia. It is logical to assume that processing facilities will eventually be scattered across Russia to coincide with growing areas and population centers. This would minimize freight costs and tailor products to fit specific cultural and ethnic requirements of the Russian population. For example, supplying Siberia with processed potato products would be better than to supply with fresh potatoes and suffer high losses.
- Women in Russia, by necessity, are in the work force outside of the home. Ultimately, these women will seek and purchase those foods that offer convenience, quality, and value for rubles spent. New convenient processed potato products if available, would be marketable.
- Presently there is no infrastructure to support a frozen potato market for retail sales. With more private retail grocery type shops opening up, it would not be too difficult a task to install frozen retail type freezers. With some market training and development, consumers could be educated on the economic reasons/justifications to purchase these convenience type foods. McDonald's in Moscow is currently seeking a supplier of Western Mac fry quality. Before it can expand, they must have such a supplier of frozen Mac fries.

V. Constraints in Development of a Ukrainian and Russian Processed Potato Industry

Government reforms and the privatization process are moving very slow and the future is uncertain at this time.

Government refusal to provide clean, legal ownership of land is a disincentive to agriculture and agribusiness development since the land cannot be used as collateral. There seems to be little long-term interest to add capital to land and agribusinesses for fear that government policy will change and take all that has been invested.

Extremely high interest rates to borrow short-term working capital limits companies from acquiring farm inputs to produce better quality and more yields from crops. In addition, the agricultural community suffers from poor storage facilities, which lead to high losses of crops stored.

There is presently no source of long-term investment capital. Foreign investors are not willing to invest money for loans due to the uncertainty of the direction of the government, as well as not having a stable currency that is internationally convertible.

The government has placed ceiling prices on a number of farm commodity products. On the other hand, the farm community is faced with high and spiraling farm costs and unable to recoup these added costs. Again, this is a disincentive to the agricultural and agribusiness communities of Ukraine and Russia.

There are no mechanisms to sell farm commodities other than to the various state enterprises who control the prices. Lacking a farm commodity stock exchange, the farm

community must accept the prices state enterprises offer. Contracting is not well understood or practiced.

The only food distribution systems are those established by the state. Most retail outlets are operated by the state; however, there are some private retail outlets in Ukraine and Russia. It will require a new infrastructure to be established in order to be more efficient and effective compared to the state distribution systems.

This consultant did not have the opportunity to visit current or prospective potato processing facilities. The state of the art of the potato processing industry in the two countries cannot be judged in this preliminary visit. However, after visiting numerous canned vegetable operations in Ukraine it can be seen that they are operating with technologies dating back to the late 1940's and early 1950's by U.S. standards. This consultant was informed at the end of his stay, that there is in fact a potato processing facility in the Moscow area. It supposedly produces potato chips and dehydrated potato flakes. It was reported that the product from the flake process is very gluey/pasty because the proper cooking technology was not installed.

Ukrainians and Russians have inquired about the latest U.S. potato processing equipment which they might consider for future purchases. Some ask about buying older and smaller potato equipment that was used by U.S. processors with smaller scale capacities. Unfortunately, most all of these kinds of lines have been made into scrap many years ago, or were sold and are presently being used in developing nations. Large scale American and other western potato processing equipment has evolved over the years, which is very expensive to purchase.

Few Ukrainian and Russian agribusiness people contacted know how to gather facts and write a proper business plan. They seemed unsure of how to target their markets and at what prices. Ukrainian government and private people think the "customers" will tell them what products and kinds of products they want. The truth is, most customers do not know what they want. They will purchase new items to satisfy their curiosity, and if they like it they will become repeat buyers. Henry Ford built the mass produced Ford for U.S. customers--he didn't wait for them to tell him what they wanted! MacDonald's (Russia) didn't wait for the Russians to say they wanted french fries-Big Mac's, the Coca Cola and ice cream sundays. McDonald's created change. Every successful entrepreneur creates change.

Few Ukrainian and Russian agribusiness persons know how or where to look for investment capital and how to find sources that provide low interest rates with start-up principal payback holidays.

Few Ukrainian and Russian agribusiness persons contacted knew the principles of marketing (Product, Price, Placement, Promotion and People), and many seemed to be afraid of seeking "profits". They have limited ideas of new products, pricing, how to go about import/export, letters of credit, or how to obtain information for export markets, let alone domestic markets.

VI. Recommendations to Establish a Processed Potato Industry

Ukraine Institute for Potato Research (UIPR) should continue to provide scientific

knowledge for the agricultural aspects of potato farming and to provide new potato varieties and new farm technologies that can be successfully brought into the Ukraine. In addition they can serve as a good data base for other foreign business people who need factual information that can be useful to determine if, where, and why they would invest in agribusinesses pertaining to potato processing. The Institute should not become involved in the investigative research to adapt Ukrainian potatoes to the already developed western technologies. This would be a poor use of scarce resources of people and money.

PIP could arrange to have UIPR make contact with the USDA Utilization Laboratories in Philadelphia to learn and understand what this agency did in the 1950's and 1960's to assist the American processed potato industry.

It is recommended that an independent experienced potato processing consultant be contracted for a period of three to four weeks in Ukraine to better understand major potato growing areas, storage facilities, the marketing process and what potential positive or negative impacts might arise if processing operations were to be started. Also, to understand the many elements of costs of production and constraints that processors might face and to develop overall business strategies for the aforementioned types of processed potato products as well as estimates of consumption, location of targeted markets and potential pricing structure.

As in Ukraine, the European Community is probably not a viable market for Russian produced processed potatoes.

Russian Potato Concern is purported to be a private stock company; however, it is also tied to the Russian Ministry of Agriculture.

There are 11 potato growing regions scattered across Russia. Listed in table 1 are the general regions, hectares, amounts, and the approximate population living in the reported regions:

TABLE 1

Potato Growing Areas of Russia

<u>REGION</u>	<u>HECTARES</u>	<u>TONS</u>	<u>AVG.Ton/Ha</u>	<u>ESTIMATED POPULATION BASE</u>
- NORTH	149,000	978,000	6.6	> 850,000
- NORTHWEST	112,000	1,344,000	12.0	> 4,500,000
- CENTRAL	775,300	8,031,000	10.4	> 11,000,000
- VOLGA	325,000	3,496,000	10.7	> 1,500,000
- CENTRAL BLACK SOIL REGION	330,500	3,581,000	10.8	> 1,700,000
- MIDDLE VOLGA	402,500	4,177,000	10.4	> 3,000,000
- NORTH CAUCAUS	255,900	1,909,000	7.5	> 2,000,000
- URALS	440,900	5,790,000	13.1	> 3,000,000
- WEST SIBERIA	328,700	4,121,000	12.5	> 3,500,000
- EAST SIBERIA	214,100	2,978,000	13.9	> 2,000,000
- FAR EAST	160,700	1,487,000	9.3	> 1,000,000

It is this consultant's recommendation that a private sector, expert in potato processing undertake a fairly exhaustive study of potato processing in Russia.

This could be accomplished in several phases, the first phase to possibly coincide with a Ukrainian study on the same subject area.

The first phase would be to work closely with Russian Potato Concern to outline the available potato knowledge data base and to develop basic strategies to encompass all 11 of the major potato growing regions. This information could greatly assist potential Russian and foreign agribusinesses to consider developing the Russian processed potato industries.

Future phases could be considered and planned using the knowledge provided from phase one activities. (See Appendix 3 for assistance in a proposal to establish a potato processing facility in Russia).

APPENDIX 1

LIST OF PERSONS CONTACTED IN UKRAINE

<u>DATE</u>	<u>PERSON</u>	<u>COMPANY AND POSITION</u>
7/22	Mr. Pavlov Zernetsky	PIP incountry representative, Kiev
7/23	Mr. Steve Fontenot	Global Steel, Sales Rep., Colo Springs, Co.
	Mrs. Irna Statsenko	Chief Specialist, Nat'l Center for implementation to Ukraine for Technical Assistance
	Mr. Oleg Kuaev	Vice Director, Scientific-Production Association
	Mr. Victor Kulek	Ministry of Engineering & Conversion of Ukraine
	Mr. Antatoli Frolkin	Director, Food Machinery Factory
	Mr. Martin Robinson	V.O.C.A.
	Dr. Roger Korus	University of Idaho
7/26	Mr. Antatoli Frolkin	Director, Food Machinery Factory
	Mr. Valerij Griorjiv	Director, Plant "Kievprod mash"
	Mr. Alexander Khodakov	Head of Foreign Economic Activities & Conversion
	Mr. Serkiy Polyuk	Head of Division European Countries, Int'l Technical Assistance, Ukraine
7/27	Mr. Ivan Malenko	Head of Potato Program, Ukrainian Potato Institute
	Mr. Vasiley Kutsenko	Vice Director, Ukrainian Potato Institute
	Mr. Evgeniy Petrov	Vice Director, Ukrainian Potato Institute
	Mr. Mykola Shcherbina	Division Chief of Privatization, Cabinet of Ministers, Ukraine

7/28	Mr. Gennady Vetrinsky	Vice Chairman of the Kiev Fruits & Vegetable Industries
	Mr. Petro Tblovia	Director General, Desna Agroindustria Consortium
	Mr. Grigoriy Pasechny	Director Shchors State Farm, Brovary Region
7/29	Mr. Ivan Nenchenko	Vice Head, Dept on Vegetables and Potatoes
	Mr. Vladimir Savchuk	Vice President, Ukrplodoovochprom
7/30	Mr. Igor Rudak	Head of Kiev Fruits and Vegetables Industries
	Mr. Vyacheslav	Director of State Farm

APPENDIX 2

LIST OF PERSONS CONTACTED IN RUSSIA

<u>DATE</u>	<u>PERSON</u>	<u>COMPANY AND POSITION</u>
8/2	Mrs. Renata Yanbych	Interpreter for P.I.P.
	Ms. Olga Strokova	PIP incountry agent
	Dr. Yury Moiseev	President, Russian Potato Concern
	Ms. Nadezda Rodina	Manager, Russian Potato Concern
8/3	Mr. Gennadiy Chanov	Head of Potato Processing, Russian Potato Concern
	Dr. Stepan Ginin	President, Joint Stock venture, Agroindustrial Firm (privatized state farm)
8/4	Mrs. Catherine Norris	Ag Advisor, USAID
	Mr. Alexander Bougavenko	Director, Assoc Gueia, Kievskiorpo, Moscow
	Dr. Yury Moiseev	Russian Potato Concern
	Ms. Nadezda Rodyna	Russian Potato Concern
	Mr. Pavel Fetison	V.P., Joint Stock, REINBANK, Moscow
8/5	Mr. Alexander Martchenkov	Deputy Director, Ltd. Phoenix
8/6	Mr. Victor Medvedev	Manager, Ltd. Phoenix

APPENDIX 3

TRIP REPORT: VISIT WITH MR. WILLIAM LOUGHMILLER, TWIN FALLS, ID.

August 16-17, 1993, to assist him to prepare a potato processing proposal for an agribusiness client in Smolinsk, Russia. The request for assistance was initiated by Russian Potato Concern in Moscow, Russia.

Background

I had been informed by the Postharvest Institute prior to leaving for Ukraine and Russia that Mr. Loughmiller had been working with the Smolinsk group and Russian Potato Concern. A proposal had been tendered to the two groups, and Russian Potato Concern inquired about PIP's assistance in the project.

During my first conversations/meeting with Russian Potato Concern, I had been informed of this proposal and was requested to evaluate it and make my comments on it. I evaluated the proposal, and reported to both the Russian Potato Concern and the Smolinsk group that I felt it was weak and needed considerable re-write before it should be accepted.

Upon my return to Idaho, Mr. Neese called to inform me that PIP felt that I should take several days to work with Mr. Loughmiller to help him with the potato processing proposal with some better understanding of international agribusiness and marketing so that he could make modifications to develop a good proposal to offer the Russians. I spent August 16 and

17 in Twin Falls and left Mr. Loughmiller with a proposal. The following is the proposal that was left with Loughmiller:

A. The Project: a 2 metric ton per hour frozen french fry line with capabilities to produce MAC fry products; the estimated tonnage at 13,000 metric tons per year. Will operate 280 to 300 days, operating 13 out of every 14 days, and each day to be operational and producing 22.5 hours of production.

- Assumes a conservative 42 percent recovery; however if quality long type potatoes can be available the recovery could be much higher. Also to produce European "A" grade fries for international export markets, the recovery can easily be 48 to 54 percent. Assuming at 42 percent recovery, the facility will need approximately 31,000 metric tons of raw product per process season, and the season will be approximately 11 months per year.
- Considering Raw Potato Storage Requirements: Since the facility will need 31,000 tons raw product operating 11 months, then $(31,000/11)$ 2,820 tons per month of raw product will be used in the facility. Assuming early potatoes could be harvested in August and September and sent directly from the field to the process plant (31,000-6,000) 25,000 tons of potatoes will need to be stored.
- Storages should be located directly or adjacent to the processing facility. The

potatoes need to be hauled from the fields to the storage. There is wasted efficiency to haul to the storage, and then have trucks haul the potatoes during cold winter months from outlying storages to the processing plant. The recommendation is to have the storages located on the same property as the processing facility.

- Reasons to have a frozen french fry plant rather than a dehydrated facility are:
 Many persons/businesses are contemplating putting in dehydrated potato flake lines; hence, if this should occur there will be a surplus of production and tough to sell all the surplus flakes;

Pound per pound of the raw potatoes purchased, frozen fries will always sell 191 percent more saleable weight as compared to the dehydrated potatoes (fries have recovery of 42 to 55 percent whereas dehydrated potato flakes have 14 percent recovery). With this extra tonnage, the gross revenues will always be more with frozen products than dehydrated potato flakes.

EXAMPLES OF SALES DIFFERENCES FOR THE TWO PRODUCTS:

<u>FROZEN FRIES</u>		<u>DEHYDRATED FLAKES</u>	
Saleable Weight		Saleable Weight	
$(31,000 \text{ tons}/.42) \times 1,000 = 13,020,00 \text{ kg}$		$(31,000 \text{ tons}/.144) \times 1,000 = 4,464,000 \text{ kg}$	
Sales = 6,000,000 kg @ \$. 70 = \$ 4,200,000		Sales = 4,464,000 kg @ \$.88 = \$ 3,928,320	
<u>7,000,000 kg @ \$1.00 = \$ 7,000,000</u>			
GROSS SALES	\$11,200,000	GROSS SALES	\$ 3,928,320

- Assumptions for the Sales of Frozen French Fries:

Greece: Imports 25,000 to 30,000 tons per year from the Netherlands. The market is price sensitive and the quality is not too demanding. Generally the price is approximately \$0.70 per kg F.O.B. (Ex Plant), and it would be a fairly easy task to take 6,000 tons of the Dutch business.

McDonald's Markets: Any potato fry product considered to be produced for McDonald's must be made from a North American long white potato to even consider this business. McDonald's have three stores in Moscow and it is assumed these three stores could use 2,000 tons per year. It may be possible to have an additional 4 to 5,000 tons of McDonald's business supplying Finland, Sweden, Norway and Denmark. A fair amount of American Mac fries are exported from the US into these markets to keep up with a growing demand that cannot be supplied out of Western Europe. Considerable discussions with McDonald's (UK) would be necessary to get the Scandinavian markets, and discussions with McDonald's Frankfurt Germany to understand the possibilities for Russia.

It would be mandatory to have one or two Americans that are known and trusted by McDonald's to be able to get this business. McDonald's has tough specifications and these must be faithfully and carefully followed to maintain credibility.

Middle East Markets: Considerable tonnages of fries move into Saudi Arabia, Kuwait, UAE, Bahrain, Qatar and Oman. Much of this market is owned by the Dutch but it is very possible to capture if the price and quality is right with the European "A" grade frozen fry with good labels and energetic sales people.

B. Priorities

1. Develop programs to select the equipment & design, costs, delivery, and training, parts and long-term follow-up from the equipment supplier. Many equipment companies will offer good prices, but when the equipment fails in a foreign country, there can be severe maintenance problems. Flodin Inc. has been a major equipment supplier for over 45 years with a number of foreign country installations. They are committed once the contract is signed.
2. Develop programs to understand storage problems, requirements and the design - equipment that should be installed. Spudnick potato handling equipment and Hansen Rice potato storages are reputable dealers from Idaho.
3. There may be a need to have American potato harvesting equipment and possibly the American truck beds and "pup" trailers to haul potatoes without bruising and associated problems. Handling and bruising will be tough problems to overcome to significantly reduce the losses that occur in Russia.

4. Considerable time must be spent to thoroughly understand the finish product distribution systems to be effective and competitive in international markets. If shipping via road transport, and with rough roads there will be considerable breakage. Also, it is very important to consider the plant site location. The operation needs to be on the main truck-rail systems or the river transport system to move 40 foot refrigerated containers by Russian ships to the Middle East and Greece.

5. Plant site selection is a very important issues. The needs are as follows:

- Proximity to receive raw potatoes and materials to operate the plant;
- Proximity to labor pool. There will be need of 40 + people per shift, 3 shifts per day. Busing people will add to the costs.
- Proximity to natural gas, sufficient electricity & sub-station, and potable water.
- Proximity to disposal of waste water. This consultant would recommend to have a small primary waste screen and clarifier, then pump the water to adjoining land to sprinkle irrigate the 11 months the plant is running. In the fall and winter, the climate will be wet and cold, and sufficient land is needed to dispose of the waste waters.

6. To process McDonald's type of fries, it will be necessary to import North American Shepody, Russet Burbank or related Russets. For the long term, processors should consider an in-country seed development program to breed and use rapid multiplication to raise the Shepody and Russets.

7. Considerable time and thought must be put into the development of the total financial picture and budgets. Any unidentified or wrong financial assumptions can severely and negatively impact the business.
 - Possible Russian concessions. Perhaps customs duties can be exempted or relaxed for the importation of all present and future equipment, farm inputs as well as packaging materials, supplies, and frying oils.

 - Five to seven year Russian tax holiday. This might be a possibility.

 - Russian subsidies for freight to international countries if exports bring back hard currency. This would be a positive concession.

 - One must know the costs of the following to manufacture: local potatoes; the total costs to import and grow the long whites from North America; electrical costs; natural gas costs; diesel fuel costs; potable water; labor (direct and government social costs); labor unions and related problems; labor ownership in

the company and profits; poly bags; cardboard cases; tape for sealing cases; wooden pallets and stacking aids; field transport costs to move harvested potatoes into storage; transport costs road, rail, sea to all potential markets; costs of computers at working levels to input all data and software to handle the accumulation of data; consolidation into master records on a daily basis. One must know the daily costs as quickly as possible to be able to control costs.

- Develop programs to know how much frozen storage will be required. An initial look at this equation indicates about 6 million pounds as maximum storage.
- Develop an extensive and intensive five year cash flow, and be honest. There may be several years of costs associated with growing of long white potatoes, and this will tie up funds. There are other longer term costs, and one must know the cash flows. Develop departments and department budgets, and have the computer programs to track all these costs. After the information and understanding of these above issues one should be able to develop "what if" programs to tinker with the costs and the impacts of the operation. One should develop an optimist plan, a worst case scenario and the most probable plan.
- Long-term investment loan needs. There are international lenders who will provide sizeable loans (guaranteed and mortgaged) at interest rates of 4 to 6 percent. There must be business plans that show one can generate the monies

each quarter to service interest payments, and how the loan will be paid off. The loan recipient may be forced to turn over all accounts receivable to them. Also, the services of a Bit Eight accounting firm audit on a quarterly basis is very helpful.

- Pro-forma and financial, the depreciation is an important tax shield; however, these monies set aside for depreciation should never be considered as a means for profit or operating cash flow. These monies should be set aside to be used for maintenance and repairs of equipment within the facility.
- Long-term investment loans. Funds may be available from several "off-shore" banks, e.g., Southeast Asia (Singapore), the Middle East (Bank of Oman), perhaps Japan or Korea, as well as considering the EBRD, the EXIM, and American banks that may be located in Russia. These lending agencies look for three basic and key items: (1) The company must be privatized; (2) The company must have a detailed workable, do able, and realistic strategic and tactical business plan; (3) that one provides the means of having hard currency to pay the interest and the principle for the loans. Many of these banks offer long-term investment loans for 4 to 6 percent and working capital at 10 to 15 percent. U.S. banks also like to see that Americans are involved in the daily operations of the facilities.

8. Management of the Company and the Facilities: Being a foreign Chief Executive Officer of the proposed Russian potato processing plant is a long term commitment.

I. should not be entered into unless a foreigner is willing to live a very demanding and sometimes stressful life. The following key positions are listed as follows:

- Chief Executive Officer: develops long term strategy and insures the cash flow is according to the plan. Setting the proper tactical strategy is the key to keeping the plan on schedule and the cash flow going in the proper direction according to the time tables.
- The General Manager: This person must understand: (A) how to effectively operate the facilities according to the tactical plans. This individual is the key person to develop the tactical plans and covers the future 1 to 36 months to ensure sales orders are obtained, pack plan is in place, the contracting/procurement of raw potatoes are done in accordance to the tactical/sales plans, production supplies are known/procured/shipped/inventoried and the plant is running at the best efficiencies (at or greater than 85 percent of line rated efficiencies); and (B) if the person is non-Russian he/she must know how to live and accept the environment of a foreign country. It would be a plus if a foreigner could speak the Russian language. However, as a foreigner this person must have the disposition to be able to easily communicate with English speaking key management personnel within the processing facilities. In addition,

a non-Russian should have previous international work experience.

- Chief Financial Officer: This should be a Russian citizen, possibly from the Russian banking sector with some background in accounting, financial and investments. Very importantly, he/she needs to know the Russian laws on taxes, how to work with the government to obtain as much credits, subsidies, etc. as possible, and also have knowledge of customer credit and credit checks on customers.
- Sales and Marketing: A young Russian should be in this position. It is assumed the General Manager will bring key International Sales Accounts with him/her, which will aid the international sales. The sales and marketing manager would attempt to seek out domestic sales of frozen potato products and how to market this fairly new product to Russian consumers.
- Plant Manager: Install a younger Russian who might come from a Russian manufacturing (aerospace or electrical) background. This person is a key candidate to receive training abroad. It will be very important that this person can motivate the workers; keep costs in line according to the plan; schedule and arrange for all inbound materials, the exportation of finished goods; knowledgeable in logistics, and knows freight handling and rates; and very important--knows how to work with the Russian bureaucracy to get results on

time when needed.

- A Process Operating Engineer: This will be a very key person. This person must know high pressure steam/boilers; refrigeration and freezing/freezer equipment, and modern western food processing equipment. The equipment must be properly maintained to be able to keep the line running at or greater than 85 percent of the time. The person will need to know how to train Russians to repair and maintain the equipment, and to set up a proper maintenance program.
 - Interpreters: There will be need for several key persons who can translate if foreigners are on the staff. Hire only those who can provide nearly instantaneous translations.
 - Other Positions: These can be filled with the best pick of Russians that can be found. Bear in mind one needs to develop a manning table, and to have departments within the whole; keep everything as simple as possible. It will be costly to have too many persons hired.
9. Several don't do's to consider:
- Don't try to drastically change farmers agricultural cultural habits on growing potatoes. They have been doing this for many generations and will resist new ideas. Perhaps a more realistic approach is to lease some land to grow the long

white potatoes, hire the farm/staff and train them, provide fertilizers, spray chemicals etc. Other farmers will judge on the results they see.

- Don't exert pressures to get farmers to increase potato yields until there is a good understanding as to why they don't have the yields they might have. Most Russian farmers have not had adequate farm inputs as well as irrigation. This is a most basic factor that yields are low by our standards.
- Don't attempt to convert farmers to foreign equipment or other standards of farming too quickly. Watch, look, ask questions and learn. Then carefully initiate changes and proceed slowly.
- Don't attempt to do too much too quickly--proceed slowly with major changes. Expect the worst and hope for the best. Always expect the unexpected to happen, and anticipate considerable delays and slowness. This is all part of doing business in the international scene.

APPENDIX 4 UKRAINIAN MEETINGS AND CONFERENCES

July 23, Kiev, Ukraine--National Center for the Implementation of Internal Technical Assistance for Ukraine. In attendance: Steve Fontenot, Irna Statsenko, Oleg Kuaev, Antoli Frolkin, Pavlov Zernetsky and Bosley.

Steve Fontenot and I were asked to explain our purposes, which we did. Then Mrs. Statsenko explained that Ukraine had many factories that need to be converted from military types of production to the manufacture of equipment to produce food processing machinery, farm machinery and other peaceful purposes. The National Center has the task to find foreign investors who might be willing to set up shop in Ukraine to produce these changes.

They presently have conversions of factories to produce the following: safflower oil; bakery equipment; micro breweries; grain and feed milling equipment. Some of the factories produce equipment for other types of food processing (potato peeling), and are looking for partners to supply technology and capital investments in the following: potato chip lines; baby food production lines; beta-carotene extraction and production, and possibly to manufacture ethyl alcohol from potatoes. It was agreed that this consultant would be shown two food equipment production factories the following week.

July 23, Kiev--V.O.C.A. office. In attendance: Martin Robinson, Dr. Roger Korus, Steve Fontenot, Pavlov Zernetsky and this consultant. Mr. Robinson gave Steve and I a brief understanding of the privatization and reformation in the Ukraine. Basically, the

reformation process began over two years ago and moved fairly rapidly to privatize some state lands and factories; however, things have just about come to a halt. In terms of privatization of state farms the goal was to have ten percent privatized in five years. To date, something less than one percent has been privatized.

Most of the land that has been privatized is located in the western portions of Ukraine. These lands had been taken away from previous owners. We were told, the former owners/families have received this land back. In addition, some of the slowness can be linked to the very high inflation; yet, it is very evident that the major obstacle is that the parliament has slowed down the privatization and has become very conservative.

In 1992 private farmers produced:

Grain--33,457 mt	Potatoes--1,500 mt
Vegetables--2,331 mt	Sugar beets--27,452 mt
Cattle & poultry--2,247 mt	Milk--927 mt

Private farmers have 20,655 ha of land, compared to the total land of 415,739 ha, of which 375,906 is arable.

July 23, visitation of Mr Antatoli Frolkin's food machinery and other metal products production facilities. We first had a brief meeting to learn of the products they produce and some of the problems they face. They produce several sizes of abrasive type of potato peelers; it appeared from observation the technology was of the 1950s vintage, made of

black iron and very poorly designed and built. Judging from comments during the discussion period, this facility is supposed to have paper work done and support to be privatized but nothing has transpired as yet. They had working capital loaned at 22 percent but recently they were advised that their new annual interest rate would be 126 percent. Taxes on any revenues not spent is 90 percent leaving them 10 percent to try to repair and keep the factory operating. I judge them to be very close to bankruptcy, since they are only making five percent mark-up on their products. We were told their markets are very price competitive.

July 23, visitation of Mr Alexander Khodakov's machinery production plant. We had a brief meeting to understand how his factory was operating, his sales and his product lines. Overall this is a very well managed facility and appears to be profitable and going strong. They have completed their paper work to be privatized, still awaiting the official award. They have acquired some German short term capital to keep their operations alive and are working 24 hrs per day.

They manufacture: grain milling equipment; bakery equipment; and candy wrapping equipment. We were told that by next year they will offer a full line of candy equipment to make the "Snickers" candy bar. They sell their equipment internationally to other NIS countries and within Ukraine. On overseas sales they make 40 to 45 percent mark-up, and about 30 to 35 percent mark-up on NIS and domestic sales. The quality of equipment produced at this factory was equal to European and/or American standards. I was told this equipment sells for 60 percent of German or Italian equipment, and is now being sought in

many places due to the cheaper sales price.

July 26, meeting with Mr Alexander Khodakov, Head of Foreign Economic Affairs and privatization of Ukraine. My purpose of asking for this meeting was to learn more of how/when the Ukrainian government was proceeding with the reformation and privatization processes of state owned farms and factories.

They have 16 directions they are pursuing, and food processing is but one of them. They have 3,600 state enterprises, and they think they have clear directions on how to proceed. They have developed programs to sift out those enterprises they feel are to be privatized, and allow the paper work to proceed for privatization. In fact, few have been incorporated. After 70 years in one direction, it is difficult to accept new forms of ideas and ownership. A large percent of the population reportedly still wish to return to the old system, and would like the government to continue as they have the past 70 years.

July 26, meeting with Mr Serkiy Polyuk, Head of Division European Countries and International Assistance to Ukraine. Again I asked for this meeting to determine if answers could be obtained on the privatization process. Mr. Polyuk listened and agreed with my logic, and eventually made an appointment later in the week to go to yet another higher level of government (The Cabinet of Ministers level) to ask these same questions.

July 27, meeting with several persons from the Ukrainian Potato Institute. Met with Mr. Ivan Malenko, Mr. Vasiley Kutsenko, and Mr. Evgeniy Petrov. The Director of the Institute

was away on vacation and I did not have the opportunity to talk with him. I listened to what the gentlemen had to say of what the Institute was doing. For the greater part everything is as it should be--providing technical assistance to potato farmers. I do disagree with their ideas that they want funds to purchase and install small pilot production lines to produce chips, granules, flakes and possibly frozen french fries. The technology is already completed and there is little need for them to "re-invent the wheel" for demonstration purposes. Mr. Malenko, who is the head of the potato processing program, spent parts of the following days with this consultant, when we toured some of the Ukrainian government owned canning factories. The Institute was supposed to have made arrangements for me to have visited some four state farms that had received approval and money to construct potato processing facilities. Some had already built the buildings, but ran out of money before the equipment was purchased. It was most unfortunate that I could not visit these facilities. Instead they wanted me to see potato storages; however, I insisted I wanted to see something in the way of food processing. It was arranged that I would be able to see some of these factories.

July 27, meeting with Mr. Mykola Shcherbina, Division Chief of Privatization, Cabinet of Ministers for Ukraine. This meeting was arranged by Mr. Polyuk. Again, the purpose was to understand what the government was doing to privatize these state farms and state factories. I learned that on September 1 there will be a referendum vote to vote for the confidence of the president, the parliament, and possibly some bills that are related to the privatization of state owned facilities.

July 28, meeting with Mr. Gennady Vetrinsky, Vice Chairman of the Kiev Fruits and Vegetables Association. This association represents some 58 state owned farms that produce processed foods. All of the farms produce potatoes and milk. In addition they also produce a number of crops:

- represent 195,000 ha of land, 140,000 arable
- in '92 they produced 32 types of vegetables
- 543 ha, 30,000 mt of cucumbers
- 1,130 ha, 36,000 mt of tomatoes
- 950 ha, 15,600 mt of carrots
- 170 ha, 11,000 mt of beets
- 4,000 ha, 56,000 mt of potatoes
- 50,000 ha of fruit orchards, and different berries.

These state farms have shops for their products, and sell processed foods such as: juices, canned beets, peas, red cabbage, zucchini squash, kraut w/onions and spices, carrots, tomatoes, canned apples and a small amount of berries. Most of the berries are sold fresh in season. They also produce fried potato snacks, dehydrated powder from carrots, beets, potatoes, and melons.

These state farms produce 150,000 metric tons of milk, and have over 150,000 dairy animals (62,000 cows, the rest bulls and young heifers); they run 34 cows per ha of land, which considered high density for this region.

July 28, visit to Shchors State Farm, Brovary Region, Kiev oblast, Mr Grigoriy Pasechny, the director of the farm. This is a 7,000 ha farm with 5,800 arable. We first had discussions and then took an extensive drive through this very well managed farm. This farm has applied to become privatized, but has received considerable resistance from the government to allow it to do so. The land is situated reasonably close to Kiev and it is thought that the government really wants to break this farm up into 2 to 10 ha plots so the future residents of Kiev can have small plots and still work in the larger metropolitan areas of Kiev. This would be inadvisable, as the land is already functioning very efficiently (as told by the director) and could be a corporate business. Mr. Paschny is one of the few large farm directors who seems to know how to farm and oversee the extensive activities. When one asks him a technical question, one can expect the right answer.

Already, some 15 percent of his farms has been given away by the government to private farmers. Most of these people do not know how to farm and most are just building private houses (dachas) and backyard gardens. No cows/milk are produced.

I learned from the director as we were touring his potato fields that he has (or would like to have) plans to build a large potato processing facility on the state farm. He will be installing a new high pressure boiler (was to have heated green houses) and feels that potato processing is the way to go. A flake line and a real potato chip line was his preference. He has land, water, boiler, and people to operate the factory. All he needs now is the privatization process to allow him to establish this farm as a corporate business.

July 29, visit to Kiev city potato storage facility. Two buildings are located on the state facilities. One of the buildings is fairly new and of western style with foam insulated (sandwich) panels. It is of Finish construction and has the latest state of the art electronics to control temperatures to + or - 1° C. and humidity to + or - 2 percent. This facility has the capacity to store 5,000 mt of vegetables (onions and potatoes) and has 21 chambers. Produce is put into metal slatted bins and stacked approximately four meters high. Also, within this facility they have several new inspection/grading/packaging lines to sort and grade onions, carrots, cabbage, and potatoes coming out of the storages. On the potato line they can sort approximately 20 tons per shift. The carrot line can wash, sort and package in 2-10 kg bags. They feel they lose approximately 10 percent of potatoes in the storage. The older storages purportedly experience 15 to 30 percent losses.

The second storage is of the older concrete type. This facility has the capacity to store 5,000 mt, and a new section has been added that will give an addition 4,600 mt of storage. This building stores produce on three levels; a basement, ground floor and second story. In the basement, they have been growing Morelia mushrooms. We visited the area, although the last spawn had been harvested and they hadn't removed the older bedding materials to get ready for a new crop of mushrooms. Once they plant and the mushrooms start, they will harvest daily for approximately three months. Morelia mushrooms are popular only in the intourist hotels. The average Ukrainian hasn't acquired a taste for them; instead they prefer to go out into the woods and pick wild mushrooms.

July 29. Nearby the previous storage facility was a state canning facility, but is not part of the association that was providing the tour. However, we did tour this canning facility. They were canning in 3 liter glass bottles, and brine in salt-spice barrels. The entire operation was built in the early 1960s, yet the technology appeared to be of the 1940s and '50s. This did not appear to be a well managed operation; there was no real activity going on. The jar capping machine was being fixed and the workers were idle. The workers (women) in the salt-spice barrel operation were getting ready to put cucumbers into barrels. This facility also juices tomatoes; however, there were no ripe tomatoes, hence the line was not operational. Later, during potato harvest, this facility also brings in potatoes from south Ukraine and cans them. These potatoes have reportedly better solids and will withstand the retort processing.

July 29, meeting with Vice Head of Vegetables and Potatoes, Ministry of Agriculture, Ukraine Government. Also included Mr. Vladimir Savchuk, Vice President. Again, I had asked for a meeting with fairly high officials to understand what would happen concerning the privatization of state farms and facilities. I was told this was not a subject that could be discussed. It is a governmental affair, and that they couldn't answer any of my questions or ideas. These people had little understanding of how a Westerner thinks to possibly assist them in their solutions to reformation and privatization.

July 30, meeting with Igor Rudak, Head of Kiev Fruits and Vegetables Industries, along with Mr. Gennady Vetrinsky, and Mr. Ivan Malenko (UPI). Mr. Rudak seemed fairly

knowledgeable about the privatization of state properties, and I acquired considerable information at this meeting. As to the bills that will be offered at the referendum vote, three choices are presently being talked about: (1) the state farms will be broken up and the workers will receive 1 -10 ha of land, perhaps a tractor; (2) that 51 percent of the shares of the farm will be held by all the workers and the other 49 percent will be sold off to prospective buyers; (3) the last option is to leave the state farms as state farms and have them as a guarantee to feed the people of Ukraine.

I learned that in '91 a consortium of British firms under grant sponsorship had spent a good deal of time and money trying to work out deals with Ukrainians to buy UK machinery, goods and services. I was shown the '91 and '92 progress/results reports; however, since it was in Russian it meant nothing and they didn't seem willing to let me have copies so that I could have it translated. The point is--governments are spending money in Ukraine to capture business for their businesses.

I also learned there is serious talk about a new currency "the Grivna" for Ukraine. It will be in circulation possibly by October of '93. The Ukrainian government will need about \$2 to \$3 billion dollars to back it up.

July 30, visit to small state canning factory. This produces zucchini, cucumbers, tomatoes, apple juice, and "birch tree" juice (a new one for this consultant, but actually tasted quite good). They operate 8 months per year with 2 canning lines, and during the height of harvest, the lines run 24 hours per day. This is a very old factory, needing new boiler capacity. It is in the village of Bobrik, Bobriksy State Farm, Brovarsky District.

July 30, visit to very large state farm that has several food processing and production lines.

This farm has a canning facility that processes cucumbers, cabbage, and apples into juice. In addition there is a new meat slaughtering operation (from Hungary, and Germany) where all meat is ground into sausage and smoked. This farm has some 3,500 ha of land. This state farm has lost approximately 33 percent of the previous size to private farmers. These new private farmers only grow sugar beets and grain. They are not diversified to give a well balanced commodity base for the people. Overall, this facility appeared to be well managed and well maintained.

July 30, visit to very large state farm of 4,500 ha. This state farm has been in the process of building a new canning factory. It appears that when government funds stopped, so did the construction. The machinery is in place and looks to be needing only minor work such as stringing electrical wire, and finishing assorted small things. I did not question whether work had been stopped. This farm has: 450 ha vegetables, 150 ha orchards, 15 ha berries, 1,200 ha wheat and rye and 50 ha of sugar beets. The balance is pasture for the 1,200 head dairy farm herd plus 1,800 head of heifers. Most of their produce is sold in the Kiev area. Farm personnel can see that food processing is a must for the people to have cheap food 12 months of the year.

APPENDIX V RUSSIAN MEETINGS, CONFERENCES AND VISITS

August 2, interviews with five Russian men that had expressed interest to be involved in a six week training course to be held in the United States involving the Post Harvest Institute for Perishables. This assignment was given to me by PIP which requested I interview some of the candidates from around the Moscow area. Of the five candidates, I judged four would be suitable.

August 2, interview with Mr. Nikolay Dobrynov, Director of Share-Holding K "SPEKTR", the rayon of Raueshkovsiey of Lver region. This is a private company, and Mr. Dobrynov is a potato farmer interested in exploring potato processing at the village level. He was a "drop in" and due to the tight time schedule I could only meet with him for a very brief amount of time. I indicated that although my time was limited, that in the not too distant future, either myself or others would be back and could take more time to work with him. Again, the story was the same--people want to get into processing but have no investment funds and don't know where or how to go about getting technical assistance or the money.

August 2, meeting with the Russian Potato Concern. Present at this meeting was Dr. Jury Moiseev, President, and Ms. Nadezda Rodina, manager. Dr Moiseev is a very intelligent man and knows considerable about potatoes. His main concerns focuses on four basic issues:

- (1) Growing quality and quantity potatoes in Russia;
- (2) The proper storage of potatoes to avoid losses;
- (3) The modern Western technology & equipment to process potato crops to avoid losses and have improved quality for the Russian people;
- (4) The development of a good workable marketing plan.

I was informed that Mr. William Loughmiller, Twin Falls, Idaho, had made several trips into Russia this past year and had been working with a private firm in Western Russia. Mr Loughmiller had just recently made a formal proposal to the Russian Potato Concern to involve the Smolinsk firm in a joint venture deal. I was asked by Dr. Moiseev to evaluate the proposal and to advise the Russian Potato Concern and the Smolinsk group of my findings. This will be discussed briefly in a separate section of the Russian section of the final report.

Dr. Moiseev was very up front and requested of me to have a proposal for them to consider before I returned to Idaho. I had informed him that it would not be possible since my time was too limited and I would not be able to do justice to offer a proposal without fairly exhaustive information about Russia.

An important issue to keep in mind when Western potato businessmen indicate they will bring North American seed potatoes into Russia and will show how they can get yields of 30 to 45 tons per ha is to know why the Russian farmers can't get more tonnage. Most of the problem stems from the lack of farm inputs such as nitrogen, phosphates, potassium, the various insecticides/pesticides and fungicides that most Western farmers take for granted.

Another reason is the weather. Some years are reasonably good, some are hot and dry with no rain, and other years the sky is overcast and considerable rain falls.

Dr. Moiseev also indicated that the Russian potato farmer raises 250 kg of potatoes per capita; yet Russians only eat 100 kg. Why is there the need to have more yields? One might study the statement by Dr. Moiseev, as I think the balance of the 150 kg per capita is probably lost to spoilage (which would be approximately 60 percent loss) and everything seems to indicate losses can range from 10 to 15 percent on the lower side to as high as 30 to 70 percent in the less developed rural areas and older storage and distribution systems. I would suspect some of the 150 kg per capita not eaten is consumed as carry-over seed potatoes for next years' crops, possibly some having gone into industrial processing and other processing, and the balance as rot or waste.

It was said the Russians have a good seed potato breeding and certification system; yet the prices of seed potatoes are very low. One ton of Elite sells for US \$ 25.00 per mt (US \$ 0.0113 per pound). After talking to several sources, I would suspect that their seed certification program is not operating as well as it should. I do not think they have the funds and manpower to police all the seed production areas for diseases and problems.

Russian Potato Concern feels the marketing of processed potatoes should be focused to five target segments:

- (1) Young children, with finger food and bright packages;
- (2) Retired persons, the food being good and very cheap;
- (3) The working class, to have good quality mashed potatoes;
- (4) The "new business class" with money to purchase gourmet foods;

(5) The military, who need a different sort of potatoes.

Ms. Rodina attempted to provide me with an understanding as to how the Russian Potato Concern was to be financed in the future. I am sorry to say that none of it made much sense, as it all was in Russian and the translations were very rapid and not everything was made clear to my translator. Overall, and in the end it seems that when their currency is stable all of the pieces of their puzzle will fall into place.

August 3, visit to the private joint-stock farm located in the region of Vladimir. We visited with Dr. Stepan Ginin, who is President (previously the State Director of the farm). Dr. Ginin is very intelligent and is of the old school of thought as he admitted he didn't think President Yeltzin knows what he is doing and that the old parliament should have control. This privatized state farm covers some 14,000 ha of land; 6,000 ha is cultivated with horticulture of all kinds and 2,600 ha is cultivated land. They raise approximately 300 ha of potatoes. This farm is one that USAID selected to have one of the 2,500 ton Global Steel potato storage warehouses. It was unfortunate that I had but a few hours at this farm and did not have the opportunity to have further discussions with Dr. Ginin and some of his key staff members.

Dr. Ginin asked my opinions as to what I would suggest they might consider to be the best areas they should concentrate on if they were to move into potato processing. I strongly believe that a few Russian firms need to get started in the production of frozen processed potatoes. A lot of businesses will be moving to dehydrated potato flakes, and

there could be an inventory build-up before the majority of Russians know how to use and will be willing to purchase these products. The potato flakes they are accustomed to presently is much like wall paper paste (very gluey and pasty). Since this farm is situated not too distant from the Volga river, it could be plausible to barge or ship frozen fries into Greece, Turkey, the Middle-East on Russian ships.

August 4, meeting with Russian Potato Firm and the bank REINBANK. I surmise the purpose of the meeting was to show me that they were working with a bank to attempt to source investment funds and working capital cash flow funds. However, after listening to Vice President Pavel Fetison describe how his bank was structured, I felt the need to understand at what interests rates his bank was willing to make loans. This surprised him and Russian Potato Concern personnel that I would ask such questions. He did collect his thoughts and went on to say they would be loaning short term money for current market rates (125 to 140 percent per year), and that probably the long term money would be at 25 to 30 percent per year. I inquired why anyone would accept these rates if they could get to international monies at 4 to 6 percent for long term loans, and 10 to 14 percent for short term working capital monies. Mr. Pavel admitted they had been discussing getting Singapore money at 4 percent.

August 5 & 6, meeting in Smolinsk (Western Russia) with Mr. Alexander Martchenkov and Mr. Victor Medvedev. This private company is manufacturing several food/beverage/medicinal products presently. They have been in discussions with Mr.

Loughmiller and discussing the possibilities of a four drum dehydrated potato processing complex in their region.

We did go over the proposal from Mr Loughmiller, and I pointed out a number of places that I thought were serious problem areas. I also informed them that it would be my expert opinion that frozen potato products would be my first priority to get started and the reasons why I feel as I do.

This private company has the appearance of knowing how to do business, and with a little help from the West they could make a go of the processed potato operation they choose to enter. Their problem is that they do not have adequate funds. They have some funds, and probably their chairman has channels to get to some of the hidden wealth in Russia to make the investments when they are ready to do so.

This private company has some 3 ha of private land, and (I thought) they also indicated they had ownership to another 17 ha of land. We were shown a plot of land adjoining a state farm about 15 km outside of Smolinsk that they are supposed to own and on which they have been considering to establish a potato factory here.

Upon my departure they indicated they were not going to go with the plans Mr. Loughmiller had presented. They are going to have discussions with him and ask him for better plans, and probably targeted for frozen french fries.