

## "Agrovit" JSC

Saint-Petersburg

Owners:	5 individuals with the shares 38%, 36%, 11%, 10% and 5%
Staff:	17 staff employees, 25 temporary employees
Previous financing:	\$ 700,000, including own funds \$ 500,000, raised funds \$ 200,000
Current financing:	\$ 400,000, including own funds \$ 20,000, raised funds \$ 200,000
Volume of investment required:	\$ 2,200,000
Intended use of the investments required:	Development of construction-technological documentation, reconstruction of production facilities, equipment assembling, starting the industrial production of glass-like complex mineral long-term activity fertilizers in the volume of 3 thousand tons per year.

### Company profile

JSK "Agrovit" was founded in February 1999. The base of the business is an innovation introduction to an industrial produce technologies based on phosphate glasses. As a matter of fact the company is implementing a wide-scale conversion program. The results of long-term researches are used in company development. Scientific unit head is the doctor of chemical sciences, professor, G. Karapetjan (the State Optical Institute, St. Petersburg Technical University). The rights on the sites of industrial property belong to company. JSC is the owner of patents by class № 7 C03 C3/16, C05 B19/00. The term of patents' activity is 2013.

### Area and directions of activity

Research and development of chemical compounds equipment and technology for producing of slow-release mineral fertilizers and soil conditioners.

Research and development of a biological and microbiological soil recultivation technology and a technology of purification water ecosystems polluted by oil and petrochemical products.

### Products/Services/Technologies

A complex mineral fertilizer "AGROVITAQUA - AVA" - slow-release water-soluble substance with dissolution kinetics depends on possessing critical exponential temperature, preserving high-temperature structure in the course of liquid-glass melt transition.

The basic composition of the fertilizer includes a wide spectrum of elements, which are necessary for plants' supply: P<sub>2</sub>O<sub>5</sub>, K<sub>2</sub>O, CaO, MgO, SiO<sub>2</sub> and also microelement additions of transition metals: Co, Fe, Cu, Mn, Zn, Mo, Se, B.

The Russian Federation State chemistry commission of the Ministry of Agriculture and provisions appropriated to the fertilizer the State registration number - 21-9199(9330-9332)-0339-01 dated January, 20, 2000.

The production possesses a number of merits, which are unachievable in the case of using traditional polycrystalline fertilizers by other producers such as:

- controlled speed of necessary supplying substances remove into water-soluble phase in dependence with humidity, temperature, number of rainfalls, plants' vital activity and a soil type;
- acting period of controlled release is 2.5-3 years. The utilization coefficient of useful substances is more than 90%.

In addition, a new technology of water ecosystems' purification from oil and petrochemical contamination. The slow-released matter in water and soil solutions foamed variable composition phosphate glasses could be used as active carriers for various sorts of microbiological organisms. It provides optimal conditions for microorganisms-destroyers' nutrition and vital activity during long period of time.

### Achievements

- Technological process for forming up compound was designed jointly with JSC "Phosphorit" (Kingisepp). The industrial production of mineral glass-like fertilizers "Agrovitqua - AVA" was organized in the volume of 45-50 tons per month on the base of Malovisherskij glass plant (Novgorod region).
- From 1999 there have been conducted wide-scale scientific plant-growing and field tests of production in conditions of open and close soil in Leningrad, Stavropol, Krasnodar, Altai regions, Kazakhstan republic on 77 species and 26 sorts of agriculture plants. Results are indicative of high agronomical and economic effectiveness of using the fertilizer and of its unique properties.
- The Political Consultative Council to the President of the Russian Federation has adopted a decision (№ K/158 dated 30.09.1999) approving the program of foundation the production of "AVA" fertilizer in the Russian Federation in volume of 500 thousand tons per year.
- Trading network was established in Northwest, Central and South regions of Russia. It has gained the first experience of foreign deliveries (Estonia, Latvia and Byelorussia).
- The product and technologies for its production are protected by patents of the Russian Federation:
  - Granulated fertilizer "Agrovitqua". Claim RF № 98118991, priority 21.10.1998. Claim RST № PCT RU 99/00204.
  - Granulated complex fertilizer. Claim RF № 99116448, priority 19.07.1999. Claim RST № PCT RU 00/00293.
  - Glass long-termed activity fertilizer. Claim RF № 99119747, priority 02.09.1999. Claim RST № PCT RU 00/00355 Patent of the RF № 2163587 Claim RST published 08.03.2001. № of publication WO 01/16020.
  - The way of phosphate glasses production. Claim RF № 2001135953, priority 21.12.2001. The positive decision about the Patent of the Russian Federation delivery was received 22.05.2002.

#### Prospects of Development

Building of "mini-plant" producing fertilizers with an annual production volume of 3,000 tons. The project is planned to be realized on the basis of production facilities of a chemical factory working in Leningrad region. The cooperation of a newly designed plant with an existing plant will dramatically reduce capital investments needed and will decrease expenses on personnel training.

The product is planned to be sold basically on a retail market (up to 85%) and on the market of payable middle agriculture producers through the presently dealers' network presently being developed.

Sales volume (over the last 12 months): \$ 600,000

Year	Without investments requested	With the investments requested
2002	\$ 1,200,000	\$ 1,200,000
2003	\$ 1,500,000	\$ 3,500,000
2004	\$ 2,000,000	\$ 5,000,000
2005	\$ 3,000,000	\$ 5,000,000