

Creating innovative production facilities for deep processing of amaranth grain

**Functional nutrition –
a positive impact on human health**

Voronezh, 2014

RUSOLIVA LTD.



About the company

RUSOLIVA Ltd.

Manufacturer and supplier of
gluten-free products from
amaranth grain



OUR GOAL:

To improve the variety and quality of gluten-free nutrition of consumers, by offering tasty, natural and healthy products from amaranth

RUSOLIVA LTD.



The essence of the project

- In the course of the project there will be created an innovative industrial production facility for deep processing of amaranth grain for manufacturing gluten-free foods, protein concentrate (at least 70% protein) and pharmacological substance - amaranth oil with squalene content of up to 30%, based on the current pilot production in Voronezh region.
- Due to the demands of the market, it is expected to increase the existing production capacity of 10-15 times (providing its full completion), as well as to expand the range of end-products from amaranth grain.

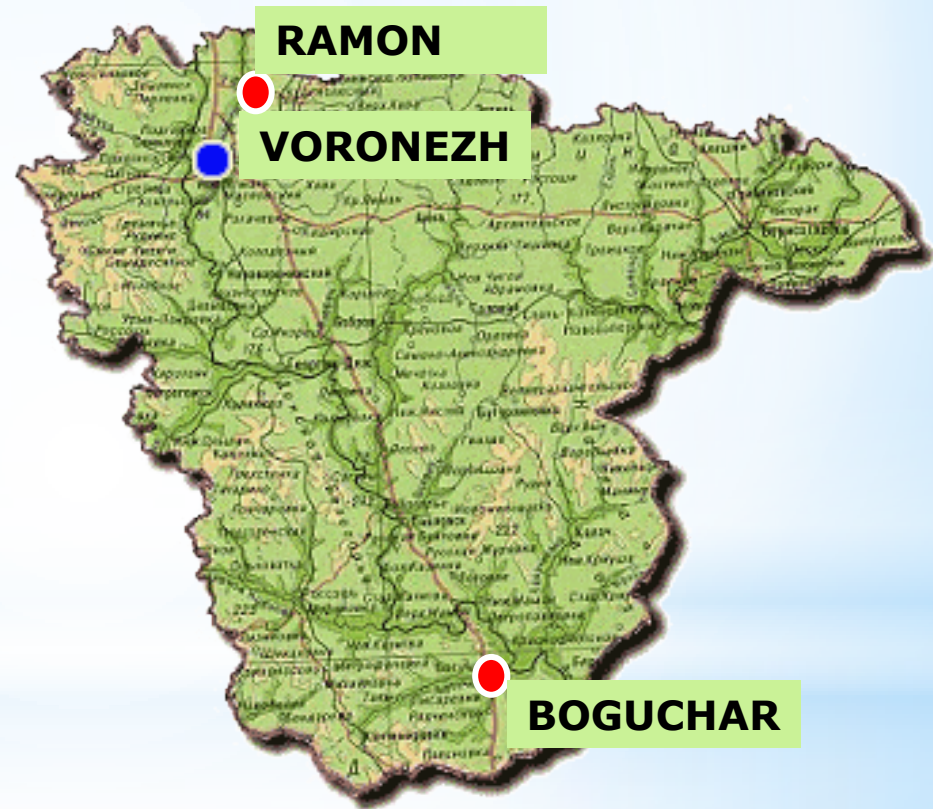


Location of project assets

RUSOLIVA Ltd. was founded in 2005

*Russia, Central Federal District,
Voronezh region*

- 2 manufactory departments: Boguchar and Ramon
- 30 employees
- Sales volume: 0,8 million euro






Background for Project realization

- Amaranth plant is one of the most perspective sources of raw materials for producing gluten-free foods with high biological value, for creating a line of products that are similar in composition to dairy products, on the basis of amaranth protein concentrate, highly balanced in amino acid composition; and also it is the source of squalene-containing pharmacological substances.
- RUSOLIVA Ltd. possesses its own technologies from amaranth cultivating to amaranth grain processing, which are protect by the patents of the Russian Federation.
- In Voronezh region there is a scientific and experimental base for developing new technologies for processing of amaranth; a range of foods and food ingredients based on of amaranth as well as 2 pilot plants. There are no analogues of such production in Russia.
- The market of amaranth products in Russia is at its generation stage. Marketing researches of the Russian market of amaranth and its products have shown: there is a considerable potential for market growth (dozens of times - in the medium term and hundreds or thousands of times - in the long term). There is also a potential of accessing foreign markets with a range of products of the Project.



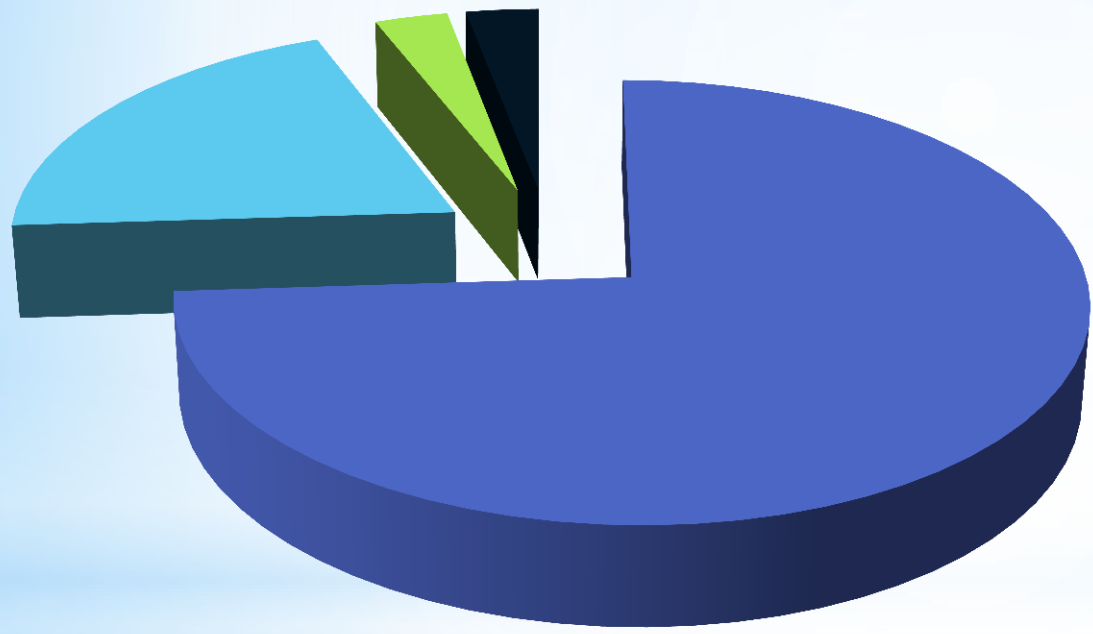
Products and application area

Product of amaranth processing	Application area	Kind of product
Flour 	Food industry: baby nutrition, diet and preventive nutrition	Gluten-free products: bread, cookies, gingerbread, waffles, cereals, groats, crisp bread, extrusion products
Protein concentrate 	Food industry, compound feed manufacturing	Vegetable lactose-free products, identical in their composition to dairy products
Amaranth oil 	Pharmaceutical and cosmetics industry	Amaranth oil as a pharmaceutical substance and a raw material for cosmetic products



Categories of products

Products



- Gluten-free products 74%
- Protein concentrate 20%
- Amaranth oil 3%
- Amaranth extract 3%



Gluten-free – what does it mean?

- Gluten – a protein found in wheat, rye and barley
- People suffering from celiac disease are intolerant to gluten
- In Europe there are over 14 millions of people suffering from celiac disease (~ 2% of population)
- The only known treatment of celiac disease is a lifelong diet without gluten
- In addition, the gluten-free diet has recently become a conscious choice of the consumer who is leading a healthy lifestyle (not being a gluten-intolerant patient)!

The demand for gluten-free products is increasing all across Europe!



Energy and nutrition value

	Amaranth flour /100 g	Full corn rice flour /100 g	Tapioca starch /100 g	Buckwheat flour /100 g
Energy, kJ/kcal	1482/354	1500/360	1500/360	1400/334
Protein, g	17,3	6,1	0,3	12
Carbohydrates, g	69,6	81	88	70
Fat, g	2,9	0,7	0,1	1,4
Fibre, g	5	4	0	5,3



Advantages of amaranth

Nutritional properties:

- Alternative to other types of gluten-free flour
- High content of protein and minerals – a good advantage in developing gluten-free products

Technological properties:

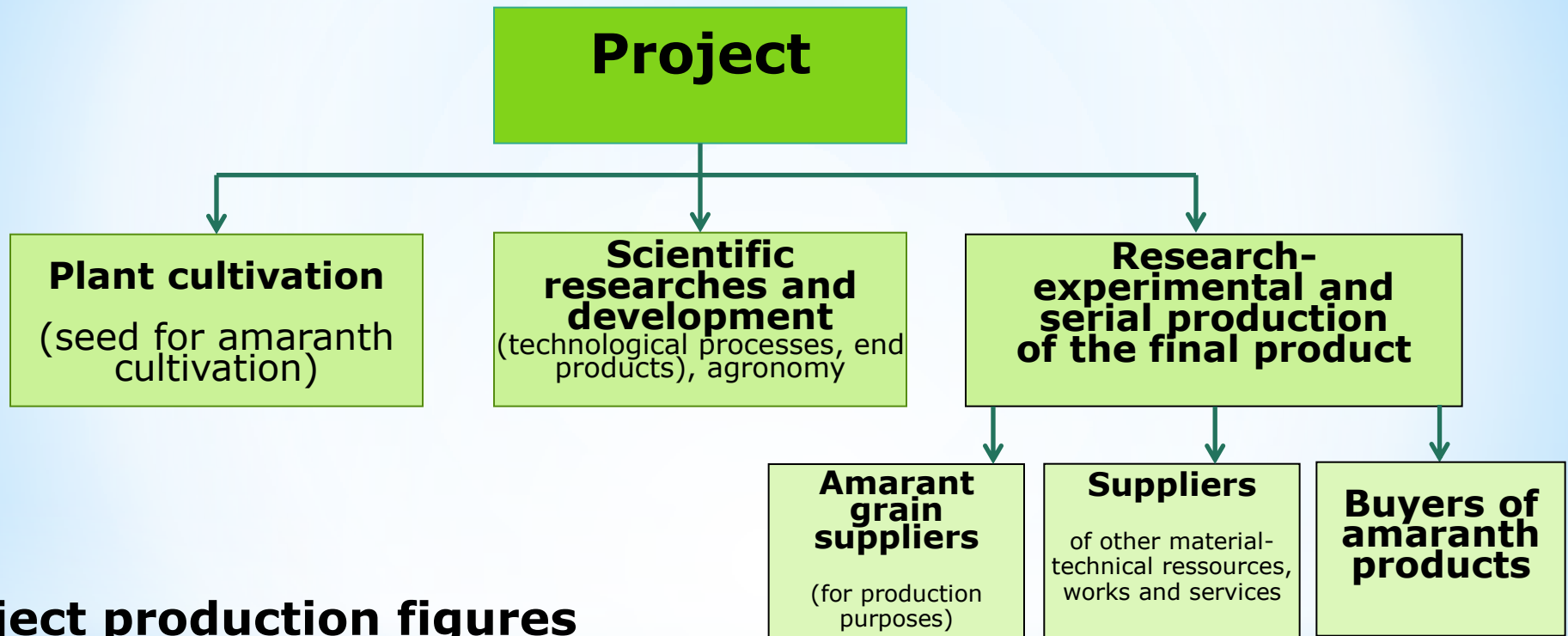
- Thickening properties for soups and sauces

Sensoric properties:

- Grain aroma



Full Project infrastructure



Project production figures (current production):

- 2008: processing 20 tons of grain
- 2009: 50 tons of grain
- 2010: 100 tons of grain
- 2013: 500 tons of grain



Planned production figures of the Project

Project capacity: processing 50.000 tons of amaranth grain annually

Production capacity	Amarant oil, kg.	Amarant extract, kg.	Protein concentrate, kg.	Amaranth flour, kg.	Extruded products after manufacturing, kg.
30% project capacity	270	300	2700	1050	8400
75% project capacity	675	750	6750	466,7	21000
100% project capacity	900	1000	9000	3500	28000

Schedule of reaching the project capacity

Dynamics of reaching full production capacity is dependent on the current problems of the Russian market of amaranth products). According to its development (the annual budget for the promotion of the project is presented below) it is expected to increase the production volumes of the final product.

1-2 agricultural year	2-3 agricultural year	3-4 and further agricultural years
30%	75%	100%



Экономические показатели

General amount of project investments:

150 million RUR

Including:

Capital investments

90 million RUR

Working capital and
product promotion

60 million RUR

Project income amount, with VAT

400 million RUR

(annually; annual project capacity – 5 thousand tons)

Project costs amount, with VAT

170 million RUR

(annually; annual project capacity – 5 thousand tons)

Pay-back period (simple)

2,5 years

Maximum capacity of the plant for raw material processing

50.000 tons p.a.



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