RUSSIAN ACADEMY OF MEDICAL SCIENCES

INSTITUTE OF NUTRITION
MOSCOW, RUSSIA

“Food biotechnology in Russia, perspective for future and cooperation”
Institute of Nutrition

Administrative and experimental building

Institute’s hospital and clinic
Basic investigations in the science of nutrition (nutritiology)

- 1920: physiology
- 1960: biochemistry
- 2000: molecular nutritiology (nutrigenomic, nutriproteomic, nutrimetabolomic) and nanotechnology
- 2040: «Era»
Six scientific departments are involved into elaboration of the Institute’s basic lines of research.
Interaction with government institutions

The Institute of Nutrition keeps up permanent cooperation with legislative and executive branches of government, ministry and departments as well as different state and public institutions and organizations of the Russian Federation.
Norms and standards concerning food safety problems

Sanitary and Epidemiological Standard 2.3.2.1078-01 «Hygienic Requirements for safety and nutrition value of foods» (over 2600 standards)

Sanitary and Epidemiological Standard 2.3.2.1293-03 «Hygienic Requirements for food additives application» (over 800 standards)

Hygienic Standard 1.2.1323-03 «Hygienic Standard for pesticides content in environment» (over 2900 standards)

Hygienic Standard 2.3.3.972-00 «Maximum permissible quantities of chemicals, migrating from food contact materials» (over 900 standards)
In 1998 the RF Government approved the Concept “The State Policy in Healthy Nutrition of the RF Population by the year 2005”  
In 2003 the RF Government approved the Decree “Approving the implementation plan of the second phase of the Concept”.
PRIORITIES OF THE FOOD INDUSTRY in the RF

«Concept of the state policy in the field of healthy nutrition of population for the period till 2005 in RF »

- Maintenance of food safety
- Safety and biosafety of raw material and foods
- Monitoring of nutrition condition of population and estimation of risk development of widespread alimentary dependent diseases taking into account features of nutrition in particular regions.
- Development of domestic production of food ingredients necessary for modern food manufacture, including the enriched essential nutrients, functional products, specialized medical and preventive products.
- Organization of the addressed nutrition assistance to needy population.
- Support of domestic production of specialized products for children.
- Training of various groups of population and creation of educational centers in questions of healthy nutrition.

Realization of the Concept has provided the growth of production of food, ensuring the health improvement and amendment of the demographic setting:

- decrease of mortality,
- increase of lifetime.
The Order of the RF President from January the 30th, 2010 N 120 "Doctrine on Food Safety in the Russian Federation"

With a view of realization of state economic policy in the field of maintenance of food safety in the Russian Federation directed on reliable maintenance of the country population with foods, development domestic agro-industrial and fishing complexes, operative reaction to internal and external threats of stability of food market, effective participation in international cooperation in sphere of food safety, I decree:

1. To confirm the applied Doctrine on food safety in Russian Federation.

President of RF
D. Medvedev,
Moscow, Kremlin

The main areas of the Doctrine:

- Increasing the domestic production of raw material and foods
- Ensuring availability of healthy nutrition for all groups of population
- Education of population in the questions of healthy nutrition
PRIORITIES OF THE FOOD INDUSTRY in RF.
«Concept of state policy in the field of healthy food of for the RF population for the period until 2020 »

- Manufacture in country of principal views on food raw materials and foods agreeable to modern standards of quality and safety, strengthening food safety in the country;
- Development of domestic production of food components necessary for modern manufacture of foods, including enriched by irreplaceable factors;
- Implementation of innovative nano- and biotechnologies and technologies of functional (medical and preventive) and organic foods in manufacture processes;
• Support of breast feeding of early age children and domestic production of specialized products for children, completely meeting the requirements;
• Creation of nutrition system for children in organized collectives (gardens, schools, camps, etc);
• Organization of addressed nutrition assistance for pregnant and nursing women, and also for children from needy families according to medical indicators;
• Public catering services of working population.
### Fundamentals of State Policy on Healthy Nutrition for the period till 2010

**In the production of foods and raw materials:**

<table>
<thead>
<tr>
<th>Targets:</th>
<th>Indicators</th>
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<tbody>
<tr>
<td>Provision of the inner market with domestic food raw materials and foods;</td>
<td>70-80%</td>
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<td>Reconstruction of domestic production vitamins, development of manufacture of food supplements;</td>
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<tr>
<td>Increasing manufacture of mass consumption products (various of bakery and dairy products (milk and sour-milk)) enriched with vitamins and mineral substances;</td>
<td>20 - 40 % from the total amount</td>
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<tr>
<td>Increasing manufacture of low- fat dairy and meat products</td>
<td>20-30 % from the total amount</td>
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<tr>
<td>Increasing manufacture of meat products</td>
<td>20-25 % (including poultry in 2 times)</td>
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<tr>
<td>Increasing manufacture of vegetable foods including organic products.</td>
<td>30-50 %</td>
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**Health indicators:**

<table>
<thead>
<tr>
<th>Targets:</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increasing popularity of breast feeding children till 3 months</td>
<td>40-50 %</td>
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<tr>
<td>Decreasing the number of children and adolescents with the lowered growth and weight of body</td>
<td>30-40 %</td>
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<tr>
<td>Lowering the morbidity of iodine – deficit conditions among children</td>
<td>In 2 times</td>
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<tr>
<td>Decreasing morbidity of inadequate provision with vitamins among adults</td>
<td>30-50 %</td>
</tr>
<tr>
<td>Stabilizing and decreasing morbidity of obesity among adults</td>
<td>15-30 %</td>
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Over the past 5-7 years significant improvements have been achieved:

- in the nutritional status of population due to changes in structure of food consumption (increasing ratio of meat and dairy products, fruits and vegetables),
- implementation of more than 1200 new technologies and releasing new foods and dietary supplements enriched with micronutrients.

However, nutrition of the adult population is unsustainable due to high consumption of animal fat and simple carbohydrates with deficiency in diets of vegetables and fruits, which leads to spread of obesity (in the past 8-9 years it has increased from 19% to 23%).
Implementation of the State Policy in healthy nutrition is closely related to realization of demographic policy and national projects "Health", "Development of agriculture" and "Education"
Technology Platforms in Biotechnology

Co-chairmen of the Platform
Bureau of the Platform
Secretariat

SECTORS

Forest biotechnology

Food Biotechnology

Industrial biotechnology, Geomicrobiology

Agricultural biotechnology

International cooperation
Strategic Programs and research
Organization and external communications
Educational Activities
Regulation and legislation
Finance and Investment
Research Infrastructure

Working Groups
The main task of Russian consumers questioning

1. Identify major health issues, consumer behavior and attitudes toward nutrition
2. Assess trends and priorities concerning consumption of fats, sugars, vitamins, calories and other aspects of nutrition
3. Understanding consumers’ awareness in health benefits of foods
4. Identify what issues will be important in the near future
5. Provide a detailed analysis of cross-regional differences and similarities in food choice
Russian trend 1

- Excessively low percentage of consumers think their health excellent and almost no one happy with their ration;
- Main consumer problems: stress, fatigue, vision, joints;
- Russian consumers are especially interested in increasing energy levels, more than half of consumers choose food that may stimulate activity;
- Based on results of completed data (weight and height), 35% of consumers suffer with overweight or obesity, but only 11% of them are aware of it;
- Russian consumers believe that food has a certain functional benefits, can reduce the risk of disease, and plays an important role in health;
- About three-quarters of consumers consider their food as healthy;
- Safety and price are the main factors, influencing on food choice.
Russian trend 2

- 52% of consumers consider that it is very important to know food ingredients origin;

- 60% of consumers believe that foods are the safest way to treat diseases;

- Nearly half of consumers consider that they are well-informed in health and nutrition, but the third part felt confused in choosing foods, and 47% don’t understand the claims on food labelling;
Main groups of functional foods in the Russian market (1)

**Bread and bakery products**

- Bread and bakery products with functional ingredients;
- Bread and bakery products for special types of particular groups of consumers;

**Trends of composition changing**

- Use whole grains;
- Enrichment with dietary fiber of plant origin;
- Enrichment with vitamins and minerals;
- High protein content;
- Introduction of antioxidants;
- Using of plant extracts
Main groups of functional foods in the Russian market (2)

Dairy products

- Dairy products with reduced fat content;
- Dairy products containing alive microorganisms (for example - bio yogurt and others);
- Dairy products enriched with various functional ingredients: vitamins, minerals, premixes and fibers;

Trends of composition changing

Reducing fat content;
Enrichment:
- Vitamins, iron, iodine,
- Calcium, protein,
- Dietary fiber,
- probiotics
- prebiotics
Structure of food ingredients market in Russia

- aromatizers (29 %)
- preservatives (24%)
- colouring agents (19%)
- antioxidants (13%)
- food acids (6%)
  - glazes (6%)
  - turbidizer (2%)

Till 2015 year local producers will have 45-50% of domestic market of food ingredients.
Customs regulations under intergovernmental discussion:

- Technical regulation of Customs Union “Food Safety”
- Regulations of Customs Union “Foods Labelling” and “Safety Packaging”
- Regulation of Customs Union “Safety requirement to food additives, aromatizers and technological adjuncts”
Ideas

- Development of Instant Specialised Foods for Correction of Nutritional Status Malfunction

- Directed modification of aquaculture objects for obtaining food ingredients with desired lipids profile for health foods production

- Sensory Perception of Health and Wellness Foods: Consumers’ Willingness to Exchange Approach to Food Choice
Thank you for attention!

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