

Author information



1. Surname, name:

Lesova Zhaniha.

2. Academic degree, academic title:

candidate of biological sciences, associate professor, professor of ATU, professor of the Russian academy of natural sciences.

Place of work and position:

associate professor of the "Food biotechnology" department of ATU.

3. Education and career:

- Moscow state university named after M. V. Lomonosov, Department of Physics and Chemistry, faculty of Biology Diploma in "Biochemistry" IV № 670105 June 30, 1982;

- diploma of candidate of biological Sciences, № 0009012 March 7, 2001, HAC MES of the RK, specialty 06.01.05 - "Selection and seed production", Institute of general genetics of the Russian Academy of Sciences, Moscow, Russia;

- docent of the department of "Food biotechnology" of Almaty technological University from 2017 to the present;

- Research Institute of Molecular biology and Biochemistry after name M. A. Aitkhozhin Researcher, senior researcher, leading researcher, head of the laboratory «Cell Engineering of Plants»;

- head of the Department "Food biotechnology" (2009-2017) Almaty Technological University;

- certificate of professor of Almaty technological university, PD № 68, February 26, 2011;

- certificate of docent in "Biology" DC № 0002459 June 30, 2011;

- professor of the Russian academy of natural sciences (RANS), December 17, 2014;

- member of the Dissertation Council of KazNU Al-Farabi majored in the PhD program "Biology", "Biotechnology" and "Geobotany" (2016-2019);
- scientific expert in the field of biotechnology, repeatedly involved in the work of the state expertise of the MES of Kazakhstan (from 2007 to 2020);
- expert of the Kazakh state scientific and technical information Institute (2015-2020);
- expert of IQAA (2015-2019).

4. Scientific and research projects in recent years

Responsible executor of projects: "Maksat", "Research of molecular and biological mechanisms of influence of space flight factors on some genes of higher organisms and creation of initial stable lines of agricultural crops. Obtaining stress-resistant lines of wheat and potatoes" of biotechnological space experiments in the flights of the first Kazakh astronauts T. Aubakirov and T. Musabayev (1991- 2007); author of the new potato variety "Orbita";

Results: the effect of the influence of short-term and long-term space flight factors on plant cells under space station conditions was studied; created: an installation for research on genetic engineering of plants, a transport container for transferring Petri dishes with plant cells; potato lines resistant to a number of viral diseases were obtained, from which new potato varieties "Tokhtar" and "Orbita" were obtained.

2006-2008 - scientific adviser of projects on fundamental and applied research of the Ministry of Education and Science of the Republic of Kazakhstan: "Study of cellular mechanisms of crop resistance to phytopathogens and creation of sustainable forms for selection on their basis».

Results: the conditions for cell selection of wheat and potatoes for pathogens have been worked out; phytopathogen-resistant cell lines of wheat and potato were obtained, which were transferred for use to breeding centers.

2009-2010 - scientific adviser of project: "Development of protein markers of drought resistance of wheat and potatoes to improve cellular technologies for producing productive forms" of Program "Biological basis for creating high- technologies for health, agriculture and environmental protection".

Results: study of the mechanisms of reaction of wheat and potatoes at the cellular level to stress; biochemical parameters of response reactions were revealed.

2008-2011 - scientific consultant of the Science Foundation project "Biotechnological techniques in innovative technology of production of domestic elite potato seeds".

Results: a technology has been developed for the accelerated production of potato varieties free from virus infection to improve the seed production system; heat- and drought-resistant potato lines were obtained.

2014-2016 - scientific adviser of the initiative project: "Development of biotechnology for obtaining improved virusless potato varieties for use in elite seed production and deep processing" (№ 0115RK002241).

Results: the conditions for obtaining virus-free varieties and lines of domestic potato varieties for use by farms in order to maintain cultivated varieties have been worked out.

2014-2016 - scientific adviser of the initiative project: "Development of cellular technologies for microcloning of medicinal plants in Southern Kazakhstan" (№ 0115RK01577);

Results: the most promising types of medicinal plants and the conditions for their introduction into in vitro culture for the purpose of their further reproduction were studied.

2014-2016- scientific adviser of the initiative project: "Development of functional food products for people suffering from diabetes mellitus (№ 0115RK00242).

Results: functional foods were studied for the prevention of diabetes mellitus.

2019-2022 - scientific adviser of the initiative project: "Development of methods for microcloning rare species of medicinal plants in vitro in order to reproduce and preserve their gene pool" (№ 0118PK220597).

Results: rare species of medicinal plants growing in the Almaty region, the conditions for their cultivation and microcloning under in vitro conditions were studied in order to preserve their gene pool.

5. Main scientific publications for the last years:

1. Lesova Zh. T., Yegizbaeva T. K., Daminova R. K. Optimization of conditions for obtaining and growing potato plants cured of viruses //Kazakh National Agrarian University. *Scientific journal*. Searches, results. Almaty, 2008. p 52-54;
2. Lesova Zh.T., Egizbayeva T.K., Daminova R.K., Sidsultanova Zh.S. Obtaining environmentally friendly potato lines based on improving cell breeding methods //Kazakh National Agrarian University. *Scientific journal*. Searches, results. Almaty, 2008. p. 54-57;
3. Lesova Zh.T., Sidsultanova Zh.S. Biotechnological methods in accelerating the production of healthy potato planting material //Biotechnology. Praktika, Astana, 2009, p. 41-44;
4. Lesova Zh.T., Egizbaeva T.K., Bayadilov K.O. Methodological recommendations "Biotechnological techniques in innovative technology of production of domestic elite potato seeds", Almaty, 2009, 26 p.;
5. Lesova Zh.T., Egizbaeva T.K., Bayadilov K.O. Methodological recommendations "The use of drip irrigation technology in potato cultivation in the Almaty region", Almaty, 2009, 30 p.;
6. Lesova Zh.T. Cellular plant biotechnologies //Reports of the National Academy of Sciences of Kazakhstan, Almaty, p.79-89;
7. Lesova Zh.T., Nadirova S.A., Khozhamuratova S.Sh. "Optimization of conditions for cultivation of cells of the medicinal plant *Kalanchoe pinnata* and *Codonopsis lomonosovii*" //Khabarshy journal. The series is biological No.3 (45), Almaty, 2010, p.112-116;
8. Lesova Zh.T., Nadirova S.A., Khozhamuratova S.S. "Cellular technologies for obtaining BAS from medicinal plants" //"*Food technology and service*" Journal. Almaty, No. 2, 2010, p. 64-67;

9. Lesova Zh.T., Shokanova A.Sh., Halymbetova, Galieva L.D. "Obtaining safe food products from soy by biotechnology methods" // *Information agrobiotechnologies*. Almaty, 2010, p. 179-181;
10. Lesova Zh.T., Egizbayeva T.K., Zhardemali Zh.K. "Methods of biosafety control of agricultural raw materials and food products" // *Information agrobiotechnologies*. Almaty, 2010, p. 182-187;
11. Lesova Zh.T., Nadirova S.A., Suldina N.V. "Biotechnologies in obtaining biologically active compounds of medicinal plants" // *"Food technology and service" Journal*, Almaty, No. 5, 2011, pp. 47-49;
12. Lesova Zh.T., Egizbaeva T.K., Daminova R.K., Said Sultanova Zh.S. "Innovative biotechnologies in improving the quality of agricultural crops" // *Information agrobiotechnologies*, Almaty, 2010, p. 173-177;
13. Lesova Zh.T., Nadirova S.A., Culture of plant cells and tissues source of biologically active compounds // *Journal "Vestnik"*, KazNU, Almaty, No. 3, 2010, p. 114-116;
14. Lesova Zh.T., Nadirova S.A. Study of secondary metabolites of cell culture of *Kalanchoe pinnata* // *"Innovative technologies of food"*, Almaty, 2010;
15. Lesova Zh.T., Nadirova S.A., Gemedzhieva N.G. Study of the influence of nutrient medium components on increasing the yield of cellular biomass Medicinal Plants Bulletin of the National Academy of Sciences of the Republic of Kazakhstan, Almaty, 2011, pp 38-41;
16. Lesova Zh.T., Mezhirova S.M., Baubekova A.S., Bekzhanova A.Zh., Study of the microflora of the shubat of the Almaty region // *Vestnik of ASTU*, No. 2, 2012, p. 11-15;
17. Lesova Zh.T., Bekzhanova A.Zh. The study of the physiological and biochemical properties of microorganisms isolated from the shubat "Техника және технологиялар" // *Vestnik ATU*, No. 2, 2012, p. 15-19;
18. Lesova Zh. T., Sagyndykov U. Z., Makazhanova H. H. Cleaning of oil-contaminated soil with the use of microorganisms, "Natural Sciences" // *Vestnik ATU*, No. 3, 2012 G., STR. 54-56;
19. Lesova Zh.T., Kudiyarova Zh.S., Muttukumaru N., Halford N.D. Activity of wheat enzymes associated with aspartate synthesis under stressful conditions // *Vestnik ATU* , No. 5, 2012, p. 83-87;
20. Lesova Zh.T., Nadirova S.A. "Selection of conditions for cultivation of medicinal plant cells" // *"Food science, engineering and technologies 2011"*, Plovdiv, Bulgaria, 2011, pp. 272-276;
21. Lesova Zh.T., Nadirova S.A., Makazhanova H.H. Textbook "Food biotechnology" , MES RK, Astana, 2012, 107 p.;
22. Lesova Zh.T., Turpanova R.M., Nadirova S.A., Egizbayeva T.K. Technology of clonal micro-reproduction of plants, Textbook, Almaty, 2013;
23. Kudiyarova, Zh.S., Lesova Zh.T, Muttukumaru, Halford, N.G. Food Chemistry: a Kazakhstan Perspective on the Maillard Reaction and Acrylamide Formation in Common Foods // *«Eurasian Chemico-Technological Journal»* Volume 15, № 1, 2013, p. 67-75 (Scopus);

24. Lesova Zh.T., Nadirova S.A., Turpanova R.M., Berdykenov A.M. Development of methods for virus isolation and identification of potato viral proteins // "Innovative development of food, light industry and hospitality industry" 2013, p. 111- 112;
25. Lesova Zh.T. Obtaining wheat cell lines resistant to *Fusarium Solani* fungus // *Vestnik ATU*, No. 5, 2013, p. 50-56;
26. Lesova Zh. T., Kudiyarova Zh. S., Zhardemali Zh. K., Gilmanov M.K. Activity of the enzyme system as a marker of resistance of wheat varieties to rust diseases // *Vestnik ATU*, No. 3, 2013., p. 56-59;
27. Lesova Zh.T., Morialieva L.B., Siman K. Biotechnological methods in obtaining functional food products. XIX International Scientific and Practical Conference "Medical and pharmacological means and a healthy lifestyle as a means of quality and prolongation of human life" 2013, London (UK);
28. Kulazhanov T.K., Alimardanova M.K., Lesova Zh.T. New methods in the technology of obtaining fermented milk products. Scientific journal "Izvestia", NAS RK, Agricultural Sciences Series No. 3. Almaty, 2014, p. 56-60;
29. Lesova Zh., Dutpaev Y. Wheat perceptiveness of stady spring wheat nematodes in Kazakhstan // Nematodes of small grain cereals current status and research, Proceedings of the 15 Intern.Workshop, 12-15 september, 2015, Ankara, Turkey;
30. Aralbayeva A.N., Lesova Zh.T., Murzakhmetova M.K. Study of the prospects of using plants of the Asteraceae family in the preparation of tea drinks. International Journal of Applied and Fundamental Research. 2015.No. 12-3. p. 470-473. ISSN 1996-3955;
31. Aralbayeva A.N., Lesova Zh.T., Murzakhmetova M.K. Investigation of antioxidant properties of extracts of medicinal plants of the family of Compound flowers // International Journal of Applied and Fundamental Research., 2015, p. 252-253;
32. Velyamov M.T., Lesova Zh.T. Deep processing of vegetable and fruit crops to obtain valuable biologically active compounds with a natural healing effect. Modern problems of science and education. 2015. No. 2-2. p. 33 / ISSN 2070-7428;
33. Gemedzhieva N.G., Lesova Zh.T. Distribution and reserves of *Rheum Tatarirum* L. in the valley of the Ile River. « Izvestia » Journal of the National Academy of Sciences of the Republic of Kazakhstan, 2016, p. 241-246;
34. Murzakhmetova M.K., Utegalieva R.S., Lesova Zh.T. Study of antioxidant and membrane-protective properties of sea buckthorn extracts. Journal "Successes of Modern Natural Science" No. 1, 2016. pp. 70-73/ ISSN 16-81-7485;
35. Lesova Zh.T., Gemedzhieva N.G. Analysis of species diversity and study of useful plants of the Balkhash region, "Successes of modern Natural Science" № 1. 2016, p. 66-70;
36. Lesova Zh.T., Matniazova H.A., Moldagalieva D.J. Consortium of microorganisms and methods of obtaining fertilizers by their application// Current issues of science development / ISBN 1680-2721,163, 2016, p. 163;
37. Mamataeva A.T., Lesova Zh.T. Study of antioxidant and membrane-stabilizing properties of

extracts of the mushroom *Ganoderma lucidum* in vitro, "Nutrition issues" (Scopus), 2016;

38. Lesova Zh.T., Zh.S. Alimkulov, M.T. Velyamov. Storage and processing of agricultural products. Bulletin of Agricultural Science of Kazakhstan, the 7-8 of July- August, Almaty, 2016;

39. H.S. Sarsembaev., Yu.A. Sinyavsky, Zh.T. Lesova. A functional product based on mare's milk. Vestnik ATU 2016, No.2, Almaty, pp. 71-78;

40. Lesova Zh.T., Mambetalieva A.A. "Methods of obtaining juices based on watermelon juice", according to the results of the V International Scientific and practical conference "Achievements and problems of modern science", St. Petersburg, Scientific journal "Globus", 2016. 144 p. ISSN 2218-2268;

41. Alybaeva M.I., Lesova Zh.T. Study of the properties of microorganisms in order to create a bacterial preparation for the production of fermented meat products. Electronic scientific and educational Bulletin "Health and education in the XXI century" 2016, VOL. 18, № 11, p. 5-8;

42. Asembayeva E. K., Seidakhmetova Z. Zh., Velyamov T. M., Lesova Zh.t., Nurmukhanbetova D. E. functional food products. Lactic acid products from camel milk. Reports of NAS RK. 2016, № 5. Section Agricultural Sciences, p. 275-284;

43. Velyamov M.T., Lesova Zh.T., Kurasova L.A., Velyamov Sh.M., "Jerusalem artichoke- raw materials for inulin production" . "Modern problems of science and education", 2016;

44. Assambayeva A.I., Velyamov M.T., Lesova Zh.T. Study of growth features of nutrient medium based on enzymic hydrolyzate of substandard chicken eggs for biotechnological purposes //National Association of Scientists 2016. №5-1(21). p. 133-134;

45. Asambayeva A.I., Yerezhepova D.B., Lesova Zh.T. Photocatalytic inactivation of *Escherichia coli* on TiO_2 and TiO_2 doped with Ag// Национальная Ассоциация Ученых. 2016. №5-1(21). С. 134-135;

46. Lesova Zh.T., Abdreshov S.N., Mamataeva A.T., Rebezov M.B. The use of soy milk and α -tocopherol to reduce the indicators of alloxan diabetes in rats // APK of Russia. 2016. Vol. 75, № 1, p. 30-34;

47. Lesova Zh.T., Makazhanova Kh., Nadirova S. A. Microbiological foundations of food and biotechnological industries. Electronic textbook (under the griffin MON RK), Almaty - 2016;

48. Lesova Zh.T., Dzhardimalieva, Nabieva Zh.S., Gabdullina E.Zh., Isaeva D.K. Biosafety of agricultural raw materials and food products. //Collection of mater.international scientific and practical conference. "Biotechnology, genetics and plant breeding" Almalybak, LLP "Assyl kitap", 2017. ISBN 978-601-7181-08-6, 303-307 p.;

49. Karabaev M.K., Zhardemali Zh.K., Shegebaev O.Sh., Zabelin V.A., Saib. L.R., Omiruly S.U., Polimbetova N.S., Lesova Zh.T. et al. One of the stories and ways of development of wheat and corn biotechnology in Kazakhstan: main results, conclusions, prospects // Collection of materials of international scientific and practical conference. "Biotechnology, genetics and plant breeding" Almalybak, Asyl Kitap LLP, 2017 ISBN at 978-601-7181-08-6 p.292-295;

50. Gemedzhieva N.G., Lesova Zh.T., Kirienko V.A. Screening of medicinal flora of Kazakhstan for the presence of inulin-containing plants // "Study, conservation and rational use of the flora of

Eurasia" Collection of International Scientific Conference dedicated to the 85th anniversary of the Institute of Botany and Phytointroduction of the KN MES RK August 17-19, 2017 and 39 – Almaty, 2017. – 612 p. ISBN 978-601-7511-22-7, p. 250-256;

51. Tasbolat Zh. Zh., Lesova Zh. T., Nabieva Zh.C., Mukhtarkhanova R. B. Study of antagonistic activity of bacteria isolated from lactic acid products // Journal searches, results. No. 2 (74) 2017 ISSN 2304-3334-02, pp. 103-107;

52. Nabieva Zh.C. Mukhtarkhanova R. B., Lesova Zh.T., Usikbaeva M. A. Study of the antagonistic activity of lactic acid bacteria. Vestnik ATU, 2017, p. 157-159;

53. Velyamov M.T., Abdibaeva M.N., Kurasova L.A., Velyamov Sh.M., Lesova Zh.T., Study of the main biochemical parameters of inulin-containing extract and its concentrate obtained from the zoned variety of Jerusalem artichoke "Interes". Collection "Development of the food and processing industry of Russia: personnel and science". - Moscow: MGUPP, April, 2017, p. 59-60;

54. Lesova Zh.T., A.K. Amirova, I.Sh. Shayakhmetova, Zh.K. Zhardemali, A.P. Karbuzov, Study of the regenerative ability of the Paulownia tomentosa (Thunb) Steud tree culture. for microclonal reproduction, Actual biotechnology, Materials of the International scientific and practical conference "Biotechnology: Science and Practice", No.2 (21) ISSN 2404-4691, Sochi, 2017, p. 294-295;

55. Matniazova H., Virtseva N., Shayakhmetova I.Sh., Lesova Zh.T. Study of the biochemical composition of sprouted rice grains. Electronic journal "Student Scientific Forum 2017". RAE and the editorial board of the journal "International Student Scientific Bulletin" (RSCI);

56. Matniazova Kh., Shayakhmetova I.Sh., Lesova Zh.T. Elimination of gluten from the diet. Electronic journal "Student Scientific Forum 2017". RAE and the editorial board of the journal "International Student Scientific Bulletin (RSCI);

57. Karimov N.Zh., Lesova Zh.T., Karimov A.N., Korzhanova A.A., Nizgorodova A.S. Obtaining transgenic tobacco plants expressing the protein TsCSDP₃ and having increased resistance to cold shock. Higher School of Kazakhstan, 1/2018;

58. Lesova Zh.T., Mukhtarova A., Bagdat A., Kozhanova K., Hawthorn-composition, medicinal properties, application. «Internauka» Journal. No. 21 (55). Part 1. 2018, p. 25-29;

59. Lesova Zh.T., Amirova A.K. Biotechnology of obtaining high-quality seed potatoes in Kazakhstan //International scientific and practical conference "Food products: production, safety, quality" December 18-20, 2019, Ufa;

60. Lesova Zh.T., Gabdullina E.Zh., Amirova A.K. Cellular technologies. Almaty, 2019, 105 p.

61. Gabdullina E.Zh., Lesova Zh.T., Seydakhmetova Z.Zh. Molecular genetic foundations of biotechnology. Almaty, 2019, 104 p.;

62. Amirova A.K., Lesova Zh.T., Gabdullina E.Zh. Food and Sanitary Microbiology, Almaty, 2019, 105 p.;

63. Sanam Nadirova, Yuriy Sinyavskiy, Zhaniha Lessova, Arsen Saltybayev and Aigul Alybayeva) Antagonistic activity of goat milk and fermented milk products on its basis enriched with biologically active *Eco. Env. & Cons.* 25 (2): 2019; pp. (176-180) Copyright@ EM

64. Nadirova, S., Sinyavskiy, Y., Lessova, Z., Nabiyeva, Z., Azimova, S. The antioxidant properties of fermented milk products enriched with resveratrol and syrups of hawthorn IOP Conference Series: Earth and Environmental Science, 2019, 315(4), 042041 (Scopus);

65. Asyl M.A., Tokbergenova Zh.A., Lesova Zh.T., Begaliev K.B., Konysbaeva H.B. The effectiveness of the biostimulator "Biosok" for obtaining potato mini-tubers in protected soil conditions. Bulletin of Science of S.Seifullin Kazakh Agrotechnical University, Nur-Sultan, 4(107)2020 ISSN 2079 939X, 2020, p.39-49;

66. Tokbergenova Zh.A., Asyl M.A., Lesova Zh.T. Assessment of biological and economic efficiency of biofungicides in growing potato seed material in vivo, "Current state and prospects of development of fruit and vegetable growing industries"//Materials of the International scientific and practical conference dedicated to the 90th anniversary of the Department of "Fruit and Vegetable Growing and nut growing" of the Agrobiological Faculty of the Kazakh National Agrarian University, Almaty 2020, pp. 427-430;

67. Lesova Zh.T. Cell selection of wheat for resistance to toxins of septoria //International scientific and practical conference "Grain industry: state and prospects of development", dedicated to the 70th anniversary of Academician of the National Academy of Sciences of the Republic of Kazakhstan Iztaev Auelbek Iztayevich on February 28, 2020, Almaty, 2020, p. 126-129;

68. Nusupov A.A., Lesova Zh.T., Boguspaev K.K., D.B.N., Faleev D.G., Faleev E.G., Kuzhieva Zh.S., Zhumakhan N.A. Study of the effect of vermigumus obtained under various conditions of cultivation of Eisenia Fetida on the growth of potato seedlings (*Solanum tuberosum* L.) in the laboratory experiment //International scientific and practical conference "Innovative development of food, light industry and hospitality industry" dedicated to the 30th anniversary of Independence of the Republic of Kazakhstan, Almaty, October 21-22, 2021, p.163-165;

69. Lesova Zh.T., M.A. Asil, Zhetenova M.S., Tokbergenova Zh.A. The use of biotechnology methods in the study of varieties of colored potatoes //Collection of the International Scientific and Practical Conference "Development of Modern Science: trends, problems, prospects" on April 18, 2022, Sofia, Bulgaria, p.12-15;

70. Lesova Zh. T. Tokbergenova Zh. A., Konysbaeva H. B., Tulegenova D. K., Asil M.A. Optimization of the Korean medium for induction of microtubules in vitro //Scientific and practical Journal of the Kazakh agrarian and technical university named after Zhangir Khan Science and education. Science and education, No. 2-1(67), 2022, pp. 231-238.

Textbooks and manuals:

1. Makazhanova H.H., Lesova Zh.T., Nadirova S.A. Food biotechnology (textbook under the stamp of the Ministry of Education and Science of the Republic of Kazakhstan). Textbook, Almaty, 2012 -208 p.;

2. Lesova Zh. T., Makazhanova. H. H., Nadirova S. A. Microbiological foundations of food and biotechnological industries. Textbook (under the stamp of the Ministry of Education and Science of the Republic of Kazakhstan), Almaty, 2013, 270 p.;

3. Lesova Zh. T., Makazhanova Kh., Nadirova S. A. Microbiological foundations of food and biotechnological industries. Electronic textbook (under the stamp of the Ministry of Education and Science of the Republic of Kazakhstan), Almaty - 2016;
4. Lesova Zh.T. Industrial biotechnology. Textbook, Almaty, 2012, "Areket-Print", p. 109;
5. Lesova Zh.T. Microbiological foundations of food and biotechnological production. Study guide. Almaty, 2012, Areket-Print", 85 pages;
6. Lesova Zh.T., Egizbayeva T.K. Cell biotechnology of plants, Textbook, Almaty, 2012, "Areket-Print", p. 85;
7. Lesova Zh.T., Egizbayeva T.K. Cellular plant biotechnologies Textbook, Almaty, 2012, Areket-Print", p. 88;
8. Lesova Zh.T., Makazhanova H.H., Nadirova S.A. Food biotechnology (textbook under the stamp of the Ministry of Education and Science of the Republic of Kazakhstan) Electronic textbook Almaty, 2016;
9. Lesova Zh.T., Turpanova R.M. Technology of clonal micro-propagation of plants. Almaty, 2015, 87 p.;
10. Lesova Zh.T., Moldagalieva D.Zh. Biotechnology of fermentation and winemaking. Nur Print, Almaty, 2016, 88 pages;
11. Lesova Zh.T., Gabdullina E.Zh., Amirova A.K. Cell technologies. Almaty, 2019, 105 p.;
12. Gabdullina E.Zh., Lesova Zh.T., Seydakhmetova Z.Zh. Molecular genetic foundations of biotechnology. Almaty, 2019, 104 p.;
- 13 Amirova A.K., Lessova Zh.T., Gabdullina E.Zh. Food and Sanitary Microbiology, Flmaty, 2019, 105 p.

List of security documents, more than 30 innovative patents and patents of the Republic of Kazakhstan, including in recent years:

1. Lesova Zh. T., Nadirova S. A., Alimardanova M.K. Method of cheese production. Innovation patent of RK 111 | 2013/0021L .221 09,01.2013 45; 15-01.2014, Bulletin № 1;
- 2 Lesova Zh. T., Nadirova S.A.; Alimardanova M.K. Method of obtaining a milk drink Patent of the Republic of Kazakhstan №. 28851, 22.07.2014;
- 3 Lesova Zh.T.; Nadirova S.A.; Turpanova R.M.; Egizbaeva T.K. Biotechnological method of accelerated reproduction of seed potatoes. Innovative patent of the Republic of Kazakhstan №. 28283, 19.03.2014;
4. Lesova Zh.T., Vitavskaya A.V., Usukeeva A.D., Asambaeva A.I., Rysbaeva E.Zh., Shatilova H.A. Method of production of biologically anti-ulcer the active drug. Patent of the Republic of Kazakhstan №. 32518 dated 04.05.2016;

5. Lesova Zh.T., Usukeeva A.D., Muratova A. A., Kalenova A.B., Mustafaeva M.Zh., Ibragimova D.M. Method of obtaining oil from rice bran. Utility model patent of the Republic of Kazakhstan №. 2500 dated 21.02.2017;
6. Lesova Zh.T., Usukeeva A.D., Moldagalieva D.Zh., Alyonova A.B., Barmak S.M. Functional vegetable seasoning for patients with type I and II diabetes mellitus. Utility model patent of the Republic of Kazakhstan № 2501 dated 16.02.2017;
7. Lesova Zh.T., Usukeeva A.D., Moldagalieva D.Zh., Baigusheva A.M. Akhmetmolda L.A., Kabdoldinova D.K. Method of obtaining organomineral fertilizer. Patent of the Republic of Kazakhstan № 2598 dated 05. 02.2018, Bulletin № 5;
8. Lesova Zh.T., Usukeeva A.D., Moldagalieva D.Zh., Beisembayeva A.B. Abdeshov E.B., Kamalieva A.M. Method of obtaining fertilizer with a consortium of microorganisms "KM-1". Patent of the Republic of Kazakhstan №101065 dated 05.02.2018, Bulletin № 5;
9. Lesova Zh.T., Asembayeva E.K., Galstyan A.G., Seydakhmetova Z.Zh., Turovskaya S.N. Method of production of fermented milk drink - drinking yogurt from camel milk. (№105818) Patent of the Republic of Kazakhstan №33284 dated 23.11.2018. Bulletin № 44;
10. Lesova Zh.T., Akkaliev E.Kh., Aralbayeva A.N., Makataeva A.T., Katasheva A.Ch. The use of an alcoholic extract from the leaves and stems of Paulownia plants (Paulownia), which has antioxidant activity, and the method of its preparation Patent of the Republic of Kazakhstan № 5103 dated 03.07.2020;
11. Lesova Zh.T., Akkaliev E.Kh., Amirova A.K., Katasheva A.Ch. Method of accelerated clonal micropropagation of Paulownia plants (Paulownia), in vitro. Patent of the Republic of Kazakhstan № 34417 dated 26.06.2020, Bulletin № 25.

6. Scientific internships:

- Institute of general genetics of the Russian academy of sciences (Moscow, Russia, 1986-1989);
- Institute of genetics and breeding, Sofia, Biotechnology center in Kostinbrod (Bulgaria, 1988);
- Center of "Bioengineering" (Moscow, Russia, 2002-2003);
- Kyrgyz state technical university named after I. Razzakova (2016, 2017).

7. Rewards:

- grant of the first President of the Republic of Kazakhstan to "Young scientists", 2002;
- nominee of the 5th republican contest of inventors and innovators "Shapagat" in the category "Female Inventor "(2008);
- the grant MES "The best teacher of the university", 2010;
- in the general rating of teachers of universities of Kazakhstan in 2014-2015, entered the «TOP-50»;

- order "First Among Equals " ("Primus inter pares") of the European scientific and industrial consortium (2015);
- gold medal after name M. V. Lomonosov of the European scientific and industrial consortium (certificate) (2015);
- gold medal "European Quality" ("European Quality") RAE (2015);
- diploma of the winner of the International exhibition "For the best educational and methodical publication in its field" (Moscow, 2015);
- diploma of the Almaty trade Union "Parasat" of the MES of Kazakhstan for active participation in the Forum and exhibition "EXPO-17" of young innovators of educational institutions in Almaty, 2017;
- anniversary medal for the 60th anniversary of ATU, 2017 for high scientific and pedagogical indicators;
- gold medal "The best teacher of the CIS countries - 2022".

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