Abstracts of articles

TECHNOLOGY, MEANS OF MECHANIZATION AND POWER EQUIPMENT IN AGRICULTURE

UDC 631.51.014

THE INFLUENCE OF TILLAGE LONGLINE PROCESS PARAMETERS FOR ENERGY OUTLAY

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Keywords: soil, plow, processing, outlay, longline, combined, worker, energatic.

The purpose of the study is decrease in energy outlay of soil level processing by justification of technological parameters of the combined plow working bodies. For the purpose of theoretical prerequisites confirmation for determination of rational parameters of the soil the program level processing of used researches provided of the multiple-factor planning experiments theory. Researches of level processing parameters influence for specific power expenses of processing of the soil in the processed horizon were conducted by the combined plow in field conditions. On the basis off the theoretical analysis of process results and preliminary researches of parameters of process level processing influence for energy consumption of loosening in the processed horizon the factors having significant effect have been defined. By preliminary researches it is established that significant effect on specific power expenses of technological process of level processing of the soil is had processing depth the main case of the lower tier and processing depth the case of the top tier. By results of preliminary researches extent of influence in specific power expenses of level processing of the soil of such factors as an interval of shift of the case of the top tier towards the raw surface, a tilt angle of a chisel and the provision of a wheel of the tractor concerning edge of a furrow is revealed. By results of a multiple-factor experiment it is established that the smallest specific power expenses during the work of the combined plow are reached at installation of the case of the top tier on depth of processing of h1 = 0.12…0.18 m, the case of the lower tier on depth of processing of Nr = 0.37…0.41 m and an interval of shift of the case of the top tier towards the raw surface Δ = 0.05…0.12 m. The smallest height of furrow bottom unloosened crests is provided with the angle of statement of chisel in the cross working surface and vertical plane within 25…30°.

Bibliography

1. Gnilomedov, V. G. The combined level plow / V. G. Gnilomedov, M. P. Erzamaev, D. S. Sazonov // The Rural machine operator. – 2014. – №. 10. – P. 20-21.
2. Erzamaev, M. P. Technological features of introduction to a crop rotation temporarily raw of lands / V. G. Gnilomedov, M. P. Erzamaev, T. N. Sazonova // Achievement of science to agro-industrial complex : coll. of sci. papers. – Samara : EPC SSAA, 2014. – P. 252-256.
3. Gnilomedov, V. G. Justification of traction resistance of the combined plow for level processing of the soil / V. G. Gnilomedov, D. S. Sazonov, M. P. Erzamaev // Bulletin Samara SAA. – 2013. – № 3. – P. 8-13.

4. Nesterov, E. S. Plowing resistance of chisel working tool / V. M. Boykov, E. S. Nesterov, S. V. Startsev, K. K. Okas // Science Review. – 2017. – № 5. – P. 72-77.

5. Nesterov, E. S. Process design and tillage tools for primary tillage : dis. ... cand. technical sciences : 05.20.01 / Nesterov Evgeniy Sergeevich. – Saratov, 2011. – P. 197.

6. Artamonov, E. I. Prospects and experience of cultivation of an amaranth with use of the new sowing device / V. F. Kazarin, I. Yu. Galenko, E. I. Artamonov // Bulletin Samara SAA. – 2013. – № 4. – P. 41-44.

7. Erzamayev, M. P. Increase in efficiency of plowing by development and application of way of level processing of the soil and combined : dis. ... cand. technical sciences : 05.20.01 / Ersamaev Maksim Pavlovich. – Penza, 2012. – P. 169.

AGRICULTURE

UDC 633.11:632.51

ZONAL PECULIARITIES OF WEEDINESS OF SPRING WHEAT CROPS

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Keywords: type, soil, group, weeds, competitiveness, wheat, biological, dominant.

The purpose of research is the assessment the zonal features of the composition and distribution of dominant weeds in soft spring wheat crops. The research is based on generalization of weed vegetation studies in spring wheat crops on sod-podzolic soils in the zone of mixed forests, gray forest soils in the zones of deciduous forests and forest-steppe, leached and meadow chernozems in the forest-steppe zone; typical and ordinary chernozems in the forest-steppe and steppe, southern chernozems in the steppe, chestnut soils in the dry-steppe zone. The conjugate analysis of biological features of development of spring wheat and dominating weeds, competitive relations between them, influence on them of climatic and soil conditions is carried out. Over-wintering, early and late spring annuals, weed forming and rhizomatous perennials are common for spring wheat crops. Chenopodium album, Galeopsis tetrahit, Fallopia convolvulus, Galinsoga parviflora, Avena fatua are dominated among the early spring annuals; Galium aparine, Stellaria media, Tripleurospermum inodorum, Thlaspi arvense – overwintering annuals; Echinochloa crus-galli, Setaria, Amaranthus – late spring weeds; Cirsium, Sonchus arvensis, Convolvulus arvensis, Lactuca tatarica – weed forming perennials; Acroptilon repens – rhizomatous perennials. The abundance and harmfulness of winter annuals decrease, and late spring annuals grow from the northern to the southern areas of spring wheat crops. Seed path clogging of the soil is characteristic for wintering and early spring annuals, soil and crop yield – late annuals, from vegetative buds on the roots below the plough layer – weed forming weeds, vegetative-seed path in the plough layer – rhizomatous perennials (couch grass). Spring wheat has a low competitive ability in its relations with weed vegetation. Optimally early sowing dates, increase of productive tillering and density of standing of stalks and plants, precipitation in May and June, provision with nutrients, agrotechnical measures increase competitiveness of spring wheat.

Bibliography

1. Doronin, V. G. System for the protection of spring wheat against weeds and diseases in the South of Western Siberia / V. G. Doronin, E. N. Ledovskiy // Vestnik of Altai State Agrarian University. – 2011. – №4. – P. 913.
2. Dudkin, I. V. System of tillage and the weeds / I. V. Dudkin, Z. M. Shmat // Protection and Quarantine of plants. – 2010. – №8. – P. 28-30.
3. Kapustin, A. N. The analysis of weed infestation by weed seeds // Biological Sciences. – 2012. – №9. – P. 35-37.
4. Koryakovskyi, A. V. Improvement of the moisture saving technology of cultivation of spring soft wheat in a steppe zone of the southern Urals : autoref of dis. ... cand. agricultural sciences : 06.01.01 / Koryakovskyi Artem Vladimirovich. – Orenburg : Orenburg State Agrarian University, 2014. – 126 p.
5. Malyavko, G. P. The Effectiveness of herbicides in crops of spring wheat / G. P. Malyavko, V. Yu. Simonov // Agrochemical vestnik. – 2015. – №5. – P. 35-37.
6. Mustafayev, B. A. Features of the system of agriculture and agricultural technology of grain crops in Pavlodar region : monograph. – Pavlodar : Kereku, 2014. – 258 p.
7. Orlov, A. N. Weed infestation and yield of spring wheat depending on the elements of management / A. N. Orlov, O. A. Tkachuk, E. V. Pavlikova // Young scientist. – 2012. – №2. – P. 362-365.
8. Rzayeva, V. V. Weed Infestation of spring wheat under different methods of tillage in Northern Trans-Ural region // Zemledelie. – 2013. – №8. – P. 25-29.
9. Sorokin, A. E. Experimental and theoretical substantiation of technologies of cultivation of spring grain crops and fodder beans in the southwestern part of the Central region of Russia in the biological agriculture : authoref. dis. ... dr. of agricultural sciences : 06.01.01 / Sorokin Alexander Egorovich. – Bryansk : Bryansk State Agricultural Academy, 2011. – 40 p.

10. Timofeev, V. N. The phytosanitary condition of spring wheat depending on system of soil tillage in the conditions of Northern Zauralye // V. N. Timofeev, N. V. Perfilyev, O. A. V'jushina // Zemledelie. – 2016. – №2. – P. 18-22.
11. Shpanev, A. M. Harmfulness of weed plants in the South-East of CCZ // Zemledelie. – 2013. – №3. – P. 34-37.
12. Shpanev, A. M. Harmfulness of weed plants in crops of spring wheat in the North-West of Nonchernozem zone // Zemledelie. – 2016. – №2. – C. 34-37.

UDC 631.86: 635.21

THE EFFECTIVENESS OF THE INNOVATIVE ORGANIC FERTILIZERS WHEN POTATOES CULTIVATING IN THE FOREST-STEPPE OF THE MIDDLE VOLGA REGION

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Keywords: potato, yield, fertilizer, waste, moisture, organic, innovative.

The aim of the study was to increase the productivity of potato varieties using innovative organic fertilizers obtained from recycled agricultural waste in the forest – steppe zone of the middle Volga region. The object of research is potatoes varieties Rosara and Rosalind. In the field experiment, mineral and organic fertilizers were introduced to the potato varieties Rosara and Rosalind. Application of fertilizers contributed to the increase of soil moisture index by 0.5-1.8%. By harvesting potatoes, soil moisture did not differ significantly depending on the fertilizers and varieties used. The use of new organic fertilizers in the experiments led to decrease in soil compaction during planting potatoes compared to the variant without fertilizers. The introduction of new organic fertilizer in the pro-conducted research has contributed to the increase in weed infestation of potato, both by number and by mass of perennial and annual weeds. The use of organic fertilizers, both in the liquid and in the dry form, provided an increase in almost all elements of the structure of the crop cartography, especially under the influence of organic fertilizer increased the number of tubers formed in one bush. Due to the introduction of mineral fertilizers, the increase in the harvest of tubers on average for 2015-2017 amounted to 11.2-11.4%, from organic fertilizers – 35.7-42.3%. Rosalind variety was more productive compared to the variety of Rosary. The use of mineral and organic fertilizers contributed to an increase in the starch content in tubers by 0.9-1.8% compared to the control, as well as increased the yield of commodity tubers by 1.1-3.1%. Dry organic fertilizer was more effective.

Bibliography

1. Bel'kov, G. I. Preservation and improvement of soil fertility in modern conditions of the Orenburg region / G. I. Bel'kov, N. A. Maksyutov // Bulletin Orenburg SAU. – 2014. – № 6 (50). – P. 8-10.
2. Zudilin, S. N. Monitoring of the black soil fertility in the Samara region / S. N. Zudilin, A. S. Zudilin // Problems of development of AIC region. – № 1-1 (25). – 2016. – P. 37-40.
3. Zudilin, S. N. State of soil fertility in the Samara region // Culture of territory management: economic and social aspects, cadastre and geo-information : mat. region. sci.-pract. conf. – Nizhny Novgorod : NNSUACE, 2014. – P. 25-27.
4. Kutilkin, V. G. Application of mathematical statistics methods in scientific research / V. G. Kutilkin, S. N. Zudilin // Agricultural science in the conditions of innovative development of agro-industrial complex : coll. of sci. papers. – Kinel : EPC SSAA, 2015. – P. 40-43
5. Lukin, S. V. Organic matter Content in arable soils of Belgorod region / S. V. Lukin // Achievements of science and technology of AIC. – 2010. – № 4. – P. 44-45.
6. Obushchenko, S. V. Agroecological substantiation of soil fertility reproduction systems in field crop rotations of the Middle Volga region : dis. ... dr of agricultural sciences : 06.06.01 / Obushchenko Sergey Vladimirovich. – Kinel, 2014. – 298 p.
7. Chub, M. P. The current state of fertility of soils of the Saratov region / M. P. Chub, I. F. Medvedev, N. V. Potaturina, V. V. Pron'ko // Agrochemistry. – 2003. – № 4. – P. 5-13.

UDC 633.11 : 632.5/632.7

INFLUENCE OF CROPS WEEDINESS BY FIELD BINDWEED ON THE DAMAGE OF GRAIN OF SOFT WINTER WHEAT BY PESTS IN FOREST-STEPPE OF SAMARA REGION

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Keywords: field bindweed, wheat thrips, cereal bugs, analysis, hurmfulness, grain.

The purpose of research is an increase of the productivity and quality of grain of soft winter wheat in the forest-steppe of the Samara region. The research was carried out in 2012-2014 in the experimental fields of the Volga Research Institute of Selection and Seed Production near the settlement Ust'-Kinelsky. Variety of soft winter wheat Povolzhskaya 86 cultivated in the experiments. The above-ground weight of weeds was recorded in the soft dough stage of wheat in the areas of weakly, moderately and heavily weediness by field bindweed in 4-fold repetition according to the conventional methods. Damage of wheat grain by pests was determined using stereoscopic microscope MBS-10 in 3-fold repetition. The main pests of grain were wheat thrips (Haplothrips tritici) and shield bug (Eurygaster integriceps). According to the degree of deformation of the grain ventral furrow as a result of feeding the wheat thrips larvae, the grains were divided into undamaged, weakly, medium and severely damaged. Statistical processing of the obtained data was carried out with using of dispersion and correlation analyses. Number of grains damaged by wheat thrips was 70-85%, by shield bugs 1-3%. The maximum grain damage of thrips was observed in the areas of weakly weediness by field bindweed, shield bugs in areas where the bindweed was absent. With increasing of crops weediness by bindweed damage grains by wheat thrips and bugs decreased; among grains damaged by thrips, the share of medium damaged grains remained at the same level, weakly damaged – decreased and severely damaged – increased, which increased its harmfulness.

Bibliography

1. Burlaka, G. A. Bioecological basis of protection of grain cereals from cereal bugs (superfamily Pentatomoidea) in the forest-steppe of the Middle Volga region : monograph / G. A. Burlaka, V. G. Kaplin. – Kinel : PC Samara State Agricultural Academy, 2015. – 145 p.
2. Vikhrova, E. A. Effect of wheat thrips (Haplothrips tritici Kurd.) and the Sunn-pest (Eurygaster integriceps Put.) on technological indicators of winter wheat grain in the forest-steppe of the Samara region / E. A. Vikhrova, L. P. Fedotova // Izvestia of the Samara State Agricultural Academy. – 2017. – № 2. – 31-35.
3. Emelyanov, N. A. The Sunn-pest in the Volga region : monograph / N. A. Emelyanov, E. E. Kritskaya. – Saratov : Saratov State University, 2010. – 380 p.
4. A catalogue of varieties and hybrids of agricultural crops breeding Volga Research Institute of selection and seed production / Under the general editorship of the RAS academician V. V. Glukhovtsev. – Kinel, 2016. – 61 p.
5. Maslyakov, S. A. Sowing and productive qualities of wheat grain damaged by larvae of thrips (Haplothrips tritici Kurd.) / S. A. Maslyakov, L. V. Khusainova, N. A. Emelyanov, A. V. Sachenkov // Vestnik of Saratov State Agrarian University. – 2013. – № 5. – P. 28-33.
6. Nuvaltseva, E. P. Influence of wheat thrips on the starch content in grain of spring wheat. Study of changes in starch content depending on the degree of damage to grain // Scientific community of students: Interdisciplinary research. Electronic collection of articles based on the materials of the XII International student correspondence scientific-practical conference. – Novosibirsk, 2017. – № 1 (12). – P. 333-336.
7. Sharapov, I. I. Influence of weediness of spring wheat crops by field bindweed (Convolvulus arvensis) on grain productivity in the forest-steppe of the Samara region // Izvestia of the Samara State Agricultural Academy. – 2016. – №1. – P. 69-71.

VETERINARY MEDICINE AND ZOOTECHNICS

UDC 579.64

INFLUENCE OF FASCIOLIASIS FOR VETERINARY AND SANITARY QUALITIES OF SLAUGHTER PRODUCTS OF CATTLE

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Keywords: fasciolosis, examination, invasion, assessment, sanitary, veterinary and sanitary.

The aim of the research is to improve the quality of products, the output of liver and reduce economic damage, depending on the intensity of infestation F. hepatica in the liver of young cattle of Black – and-White Breed. Macrocells of Fasciola invasion of ruminants are widely formed in different climatic zones of Russia and other countries of the world. The decrease in the number and quality of livestock products is associated with the defeat of animals by fascioliasis. Fascioles are found in the liver and gallbladder of ruminants and cause severe, irreversible pathological changes in organs and tissues, and at the stage of the acute course of the painful process they often catch the death of animals. In the chronic course of fasciolosis reduced fatness of the abdomen, reduced growth of their live weight, milk yield of cows. The topic is relevant, since fasciolosis is also registered in the Samara Region. Before slaughter is carried out the aliving assessment of the infestation fasciolae of Black-Motley breed bull-calves is done. During the veterinary and sanitary examination of beef slaughter products the effect of fasciolosis for the quality and yield of liver depending on the intensity of the invasion was studied. Internal organs of young cattle served as the material of investigation. In the course of research it is established that the extent of invasion is 10%. At high intensity of invasion morphological changes in the liver characterized by inflammatory phenomena with the expansion of connective tissue are evident. The liver, obtained from animals with high intensity of invasion, is under culling, which leads to economic losses.

Bibliograpy

1. Gorokhov, V. V. Epizootic situation on fascioliasis in Russia / V. V. Gorokhov, I. A. Molchanov, M. A. Maysheva, E. V. Gorokhova // Medical parasitology and parasitic diseases. – 2011. – № 3. – P. 55-59.
2. Datchenko, O. O. Veterinary and sanitary examination of products of slaughter of cattle at fascioliasis / O. O. Datchenko, N. S. Titov, M. A. Nyunko // Actual problems and questions of veterinary medicine and biotechnology in modern conditions of development : mat. sci.-pract. conf. – Samara SAA. – Samara, 2016. – P. 72-75.
3. Ibrakhim, M. I. S. Influence of helminthic invasion for the quality of sheep meat products / M. I. S. Ibrakhim, I. G. Glamazdin, N. Yu. Sysoeva // Russian parasitological journal. – 2013. – № 2. – P. 120-122.
4. Economic damage caused by animal diseases and methods of its calculation. – URL: https://studfiles.net/preview/1155957/page:58/
5. Titov, N. S. Monitoring results of goat helminthiases / N. S. Titov, V. S. Zoteev, A. A. Glazunov // Bulletin Orenburg SAU. – № 1 (39). – 2013. – P. 59-62.
6. Titov, N. S. Treatment and prevention of goitre helminthiases / N. C. Titov, V. S. Zoteev, A. A. Glazunova // Contribution of young scientists to agrarian science of Samara region : coll. of sci. papersю – Samara, 2013. – P. 72-75.
7. Shelyakin, I. D. Metabolic changes of some enzymes in the body of cattle during fascioliasis / I. D. Shelyakin, I. Yu. Ventsova // Russian parasitological journal. – 2013. – № 2. – P. 91-95.

8. Shelyakin, I. D. Some questions of enzymatic activity of the liver and pathomorphological changes in fascioliasis of cattle / I. D. Shelyakin, S. N. Semenov, O. A. Sapozhkova // Theory and practice of fighting parasitic diseases : mat. sci.-pract. conf. – M., 2014.

UDC 573.4/573.7

THE CHANGE IN THE LEVEL OF TOTAL PROTEIN AND PROTEIN FRACTIONS IN BLOOD SERUM OF BROILER CHICKENS UNDER THE USE OF POTASSIUM IODIDE (KI) AND LACTOAMILOVORIN

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Keywords: broiler chickens, probiotic, Lactobacillus, potassium iodide.

The purpose of the study is improvement of physiological-biochemical status and productive qualities of chickens-broilers by inclusion in the main diet lactoamilovorin and potassium iodide. To carry out experimental studies, experimental and control groups formed by random sampling of 35 chickens of daily age, which were grown for 42 days at cellular content. It was found that with the increase in the live weight of broiler chickens, the amount of total protein in the blood serum increases, as metabolic processes occur more intensively. The protein content in blood serum tended to increase, but was within the physiological norm (25-41 g/l). The albumin content in the blood of broiler chickens II and III of the experimental group at the end of the experiment was higher by 3.22 and 2.78% compared to the control group. In the control group, the content of α-globulins decreased throughout the study. In the experimental groups, this indicator decreased to 4 weeks inclusive and amounted to 15.05, 15.19 and 15.11%, respectively, in the I, II and III experimental groups, which is less by 1.85, 1.75 and 1.83% compared to the control group in the same age period. By the end of the experiment, the content of α-globulins increased in the experimental groups, but did not exceed the indicator in the control group. Characterizing the sub-fraction γ-globulins should be noted gradual increase in the proportion of these proteins in the first group throughout the experiment. Slight changes during the experiment in broiler chickens of the experimental group were observed in the β-globulin subfraction. It was noted that statistically significant differences were found only in the first experimental group aged 21 and 28 days, when the difference was 0.19 and 0.77%, respectively, in favor of the control group chickens. Analyzing the indicators of total protein and fractional composition of blood serum of experimental groups, it should be noted that they were within the physiological norm. The maximum effect of the physiological norm were observed in broiler chickens of the experimental group III, which main diet is additionally fed potassium iodide and lactoamilovorin.

Bibliography

1. Dimitrieva, A. I. Utilization of modern biological products in poultry / I. A. Dimitrieva, R. N. Ivanov, M. G. Terent'eva, O. I. Efimova // Bulletin Altai SAU. – 2017. – № 10 (156). – P. 126-130.
2. Kolesnikova, I. A. Influence of iodine-containing preparations and Lactobacillus on protein metabolism in broiler chickens // Bulletin Orenburg SAU. – 2014. – № 2 (46). – P. 196-198.
3. Kolesnikova, I. A. Morphological and biochemical blood parameters of broiler chickens when fed a probiotic and micronutrient // Bulletin of beef cattle. – 2017. – № 2 (98). – P. 147-155.
4. Nikulin, V. N. The effect of micronutrient and probiotic on hematological parameters of birds / V. N. Nikulin, I. A. Kolesnikova // Bulletin Samara SAA. – 2016. – № 4. – P. 71-74.
5. Nikulin, V. N. The use of tetrasaccharide for growing of poultry / V. N. Nikulin, V. V. Gerasimenko, T. V. Kotkova, E. A. Luk'yanov // Bulletin Samara SAA. – 2015. – № 1. – P. 134-137.
6. Nikulin, V. N. The indicators of protein metabolism in broiler chickens when the probiotic complex application lactoamilovorin and potassium iodide / V. N. Nikulin, I. A. Kolesnikova // Bulletin Orenburg SAU. – 2011. – № 15 (134). – P. 98-100.
7. Nikulin, V. N. Selenium and iodine-containing drugs in combination with probiotic for the prevention of diseases of broiler chickens / V. N. Nikulin, V. V. Gerasimenko, T. V. Kotkova [et al.] // Veterinary science. – 2012. – №12. – P. 47-49.
8. Nikulin, V. N. The effectiveness of the integrated use lactoamilovorin and potassium iodide in growing broiler chickens / V. N. Nikulin, T. V. Kotkova, I. A. Kolesnikova // Bulletin Orenburg SAU. – 2014. – № 1 (45). – P. 168-171.

9. Chervonova, I. V. Comparative efficacy of spore-forming probiotics in technology of cultivation of chickens-broilers / I. V. Chervonova, N. V. Abramkova // Agrarian Bulletin Verkhnevolzhya. – 2016. – № 3. – P. 90-94.
10. Shevchenko, S. A. Dynamics of total protein and its fractions in blood serum of poultry under the influence of drugs selenium and iodine / A. I. Shevchenko, O. A. Bagno, A. I. Alekseeva // Bulletin Novosibirsk SAU. – 2017. – № 1 (42). – P. 167-174.

UDC 579.62 : 579.61 : 579.26 : 578.3 : 578.4

EFFICIENCY OF THE BACTISTATINE PROBIOTICS ACTION IN THE COMPLEX WITH DIHYDROQUERCETIN FOR MICROBIOCENOSIS OF DOGS TRANSMISSIBLE VENOUS SARCOMA

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Keywords: dog, sarcoma, microbiocenosis, transmissible, sexually transmitted.

The aim of the study was to increase the effectiveness of prevention and therapy of transmissible venereal sarcoma of dogs. The tasks are to distinguish and differentiate the representatives of the microbiocenosis of the gastrointestinal tract and the genital organs of healthy dogs and patients with transmissible venereal sarcoma; to reveal the effectiveness of the probiotic bactistatin use and the antioxidant dihydroquercetin for the bacterial and fungal microflora of dogs. The number of resident microorganisms in the gastrointestinal tract of dogs with transmissile venereal sarcoma and undergoing therapy with the use of vinkristin was the lowest in comparison with healthy dogs and animals treated with vincrestine in combination with bactistatin and dihydroquercetin. The highest values of the transitory microflora of the gastrointestinal tract were detected for dogs with transmissible venereal sarcoma, whose treatment was performed with vincristine. In the biomaterial, pathogenic cultures of Salmonella enteritidis $1.02\times10^2\pm0.02$ and Pseudomonas aeruginosa $1.08\times10^2\pm0.02$ were also present. Pathogenic cultures of Salmonella enteriti-dis and Pseudomonas aeruginosa have a rather high ability to survive in macroorganism (antilizimic, anti-carnosine activity and biofilm formation ability). Among the dogs studied, the least number of resident and the greatest number of transient microorganisms in the swabs of genital organs was detected in animals with transmissible venereal sarcoma and treated with vincristine. For dogs with transmissible venereal sarcoma and undergoing vincristine treatment in combination with bactistatin and dihydroquercetin, the resident cultures of Lactobacillus delbrueckii 92.8±6.8 and Bifidobacterium bifidum 94.2±7.2 were the most capable of biofilm formation.

Bibliography

1. Molyanova, G. V., The action of dihydroquercetin for the organism of official dogs / G. V. Molyanova, A. I. Akulova // The development of livestock – the basis of food security : mat. National sci.-pract. conf. – Volgograd, 2017. – P. 203-206.
2. Gromova, A. N. Diagnosis of opportunistic infections of dogs and cats / A .N. Gromova // Livestock development is the basis of food security : mat. National sci.-pract. conf. – Volgograd, 2017. – P. 157-161.
3. Sycheva, M. V. Biological effects of antimicrobic substances of animal and bacterial origin : author. dis. … dr. biol. sciences : 06.02.02 / Sycheva Maria Viktorovna. – Ufa, 2016. – P. 1-48.
4. Ermakov, V. V. Resident and transient microflora of stray cats and dogs in the Samara region / V. V. Ermakov // Bulletin Samara SAA. – 2013. – № 1. – P. 15-19.
5. Ermakov, V. V. Microbiological diagnosis of ceratomycosis and superficial dermatomycosis of small domestic animals / V. V. Ermakov // Bulletin Samara SAA. – 2011. – № 1. – P. 35-38.
6. Ermakov, V.V. The microflora of stray cats and dogs in the Samara Region / V. V. Ermakov, A. R. Medvedeva, A. P. Cherkasova // Advances in science to the agro-industrial complex : coll. of sci. papers. – Samara, 2014. – P. 210-213.
7. Ermakov, V. V. Biological properties of representatives of microbiocenosis of domestic cats and dogs in Samara / V. V. Ermakov // Actual problems of agrarian science and ways to solve them coll. of sci. papers. – Kinel, 2016. – P. 194-198.

8. Ermakov, V. V. Microorganisms that complicate the course of panleukopenia in cats in the Samara region / V. V. Ermakov // Bulletin Samara SAA. – 2015. – № 1. – P. 50-56.
9. Akulova, I. A. The effect of dihydroquercetin on the biological properties of enterococci in utility dogs // I. A. Akulova // Student science – a look into the future : mat. All-Russian sci.-pract. conf. – Krasnoyarsk, 2017. – P. 3-5.
10. Pat. № 163081 Russian Federation, MPK S12M 1/14, A61B 10/02. The disposable sterile microbiological g-shaped pallet / Ermakov B. B. – № 2016100537/14; appl.11.01.2016; publ. 7.10.2016 ; Bull. № 19.

UDC 619:578.835.2]636.2

HEMATOLOGIC PARAMETERS OF TREATMENT-AND-PROPHYLACTIC MEASURES OF INFECTIOUS RHINOTRACHEITIS AND PARAINFLUENZA-3 CALVES

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Keywords: calves, bovine rhinotracheitis, parainfluenza-3 virus, vaccine, infectious.

The purpose of research is increase the immunobiological reactivity of calves to infectious rhinotracheitis and parainfluenza – 3. Three groups of animals were formed: the control group did not receive drugs; calves of the first experimental group were administered ribotan immunostimulator in a dose of 0.5 ml intramuscularly, three times at intervals of three days, on the 10th day intramuscularly injected into the neck area nine-valent serum against infectious rhinotracheitis and parainfluenza-3 cattle (on the first day in a dose of 50 ml per animal, repeatedly after 10 days administered nine-valent serum in the same dose and gabivit-selenium in a dose of 5 ml intramuscularly) one animal). Calves second experimental group was used for 10 days, Argerich-40 in an amount of 20 ml, and 10 days later applied immunofan immunostimulant at a dose of 1 ml intramuscularly three times at intervals of 24 hours, then on day 10 was administered intramuscularly in the neck devyatiletku serum against infectious bovine rhinotracheitis and parainfluenza-3 in cattle: the first day in a dose of 50 ml per animal, repeated after 10 days injected devyatiletku serum at the same dose and vitam intramuscular injection of 3 ml per 10 kg of animal weight, 2 times a day, within 5 days. To improve specific immunity to calves of the experimental groups after 14 days twice with an interval of 21 days was applied subcutaneously, the vaccine Metalmaster at a dose of 5 ml per animal. The use of calves second experimental group of highly effective agents – immunostimulant immunofan, Argarita-40, desyatiballnoy serum and vitama, – prior vaccination has helped increase non-specific immunity of calves, i.e. adaptogenic properties of the organism of animals and preparing them for vaccination. The use of Metalmaster vaccine against infectious rhinotracheitis and parainfluenza-3 of cattle contributed to the development of specific immunity.

Bibliography

1. Gulyukin, M. I. System of veterinary-sanitary, preventive and therapeutic measures against infectious diseases of cattle in farms of the Russian Federation : methodical instructions / M. I. Gulyukin, K. P. Yurov, Yu. D. Karavaev [et al.]. – Belgorod : POLITERRA, 2007. – 14 p.
2. Dumova V. V. Spread of the virus parainfluenza-3 cattle ruminants / V. V. Dumova, V. A. Mishchenko, V. A. Mishchenko // Veterinary medicine. – 2012. – № 3. – P. 16-18.
3. Zakutskiy, N. I. Combined use of chemotherapy (Abaktan-D and Abaktan-R) and associated inactivated vaccine against infectious rhinotracheitis and parainfluenza-3 cattle / N. I. Zakutskiy, M. M. Zubairov, L. I. Anisimova [et al.] // Veterinary medicine. – 2015. – № 8. – P. 9-11.
4. Petrova, O. G. Acute respiratory disease of cattle / O. G. Petrova, I. A. Rubinskiy. – Ekaterinburg, 2012. – 63 p.
5. Redzhepova, G. R. Method of preventing respiratory disease of calves viral and bacterial etiology / G. R. Redzhepova, P. N. Sisyagin, E. P. Sisyarina [et al.] // Veterinary of agricultural animals. – 2012. – № 9. – P. 22-25.
6. Sisyagina, E. P. Improving the efficiency of specific prevention of viral respiratory disease / E. P. Sisyagina, I. A. Ubitina, J. R. Yuldashov // Veterinary of agricultural animals. – 2012. – № 9. – P. 17-21.
7. Thonur, L. One-step multiplex real time RT-PCR for the detection of bovine respiratory syncytial virus, bovine herpesvirus 1 and bovine parainfluenza virus 3 / L. Thonur, M. Maley, J. Gilray [et al.] // BMC Veterinary Research. – 2012. – № 8. – 37 p.

UDC 636.082.12

THE EFFECT OF GROWTH GENES COMBINATIONS FOR THE MEAT PRODUCTIVITY OF CATTLE

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Keywords: gene, polymorphism, compatibility, diploid, productivity, index, somatotropinomas, meat.

The aim of the investigation was to increase meat productivity of Auliekol and Kazakh White – Headed cattle breeds bred in the territory of the Republic of Kazakhstan by identifying the degree of compatibility of pituitary genes transcription factor (bPit-1), growth hormone (bGH), growth hormone receptor (bGHR) and insulin-like growth factor-1 (bIGF-1). Studies of single nucleotide polymorphisms bPit-1, bGH, bGHRи bIGF-1 presence was performed on Auliekolskoy (n=284, LLP «Karkyn») and Kazakh (n=296, LLP «Janibek») groups breeds. Blood samples were taken from experimental animals to determine polymorphisms of somatotropic cascade genes. DNA was isolated from animal blood using the commercial kit «Pure Link Genomic DNA Kits», according to the manufacturer's instructions. Determination of animal genotypes was performed by PCR-pdrf. On the basis of the conducted researches it was established that for the formation of meat productivity indices characteristics of bytosti, bone, massive, stretching, salasadal at the age of 18 and 24 months, the associated diplotype, the structure of which consists of genes bGH and bIGF-1. It has been revealed that the presence of genotype bGH-AluI^{LL} in diplotypes leads to decrease in the signs of meat productivity relative to the total sample, and the presence of genotype bGH-AluI^{LV} – to increase. Associate diplotype, providing the increase or decrease characteristic of meat productivity, with age does not change. The data obtained through the analysis of paired combinations allow to identify greater number of genetic markers, which contributes to the ability to expand the range of animal carriers of the marker genotype to participate in breeding programs.

Bibliography

1. Amerkhanov, H. New tall cold zonal type – Ural gereford / H. Amerhanov, F. Kayumov, K. Golemanov // Dairy and beef cattle. – 2008. – №6 – P. 2-10.
2. Beishova, I. S. Usenbekov Analysis of the allelic composition of bGH gene in the samples Auliekolskoy and Kazakh white breeds / I. S. Beishova, E. V. Belaya, V. P. Terletsky [et al.] // Questions of normative-legal regulation in veterinary medicine. – 2017. – №1. – P. 117-120.
3. Belaya, E. V. The Combined phenotypic effects of polymorphic variants of genes somatotroponogo cascade (bPit-1, bPRL, bGH, bGHR and bIGF-1) to the characteristics of milk production in cattle Holstein / E. V. Belaya, M. E. Mikhailova, N. V. Batin // Molecular and applied genetics: sat. science. labours'. – 2012. – Vol.13. – P. 36-43.
4. Khlestkina, E. K. Molecular markers in genetic studies and in breeding // Vavilov journal of genetics and plant breeding. – 2013. – Vol. 17. – №4. – P. 1044-1054.
5. Aytekin, İ. Associations of Pit-1 gene polymorphism with milk yield and composition traits in Brown Swiss cattle / İ. Aytekin, S. Boztepe // The Journal of Animal & Plant Sciences. – 2013. – Vol. 23(5). – P. 1281-1289.
6. Bonfatti, V. Effect of κ-casein B relative content in bulk milk κ-casein on Montasio, Asiago, and Caciotta cheese yield using milk of similar protein composition / V. Bonfatti, A. Cecchinato, Di Martino [et al.] // Journal of Dairy Science. – 2011. – Vol. 94. – № 2. – P. 602-613.

7. Carsai, C. T. Polymorphism within growth hormone receptor (GHR) gene in Romanian Black and White and Romanian Grey Steppe cattle breeds / C. T. Carsai, A. V. Balteanu, A. Vlaic, O. Chakirou // International Journal of the Bioflux Society. – 2013. – Vol. 5. – № 1. – P. 1-5.
8. Mohammad, Ali Edriss, Vahid Edriss and Hamid Reza Rahmani. Association of PIT-1 gene polymorphism with birth weight, milk and reproduction traits in Isfahan Holstein cows // ArchivTierzucht. – 2009. – Vol. 52. – P. 445-447.
9. Moravčíková, N. HinfI polymorphism of Pit-1 gene in Slovak spotted cattle / N. Moravčíková, A. Trakovická, M. Miluchová [et al.] // Journal of Microbiology, Biotechnology and Food Sciences. – 2013. – Vol. 1. – P. 1883-1890.
10. Jakaria, Noor R. R. Identification of a Single Nucleotide Polymorphism at Hinf-1 Enzyme Restriction Site of Pit-1 Gene on Indonesian Bali Cattle Population // Media Peternakan. – 2015. – Vol. 38 (2). – P.104 -109.

UDC 619:618. 14-002-085:636. 22/28

SAPROPEL AND ECOLOGICALLY SAFE TECHNOLOGIES IN THE PREVENTION OF COWS INFERTILITY

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Keywords: sapropel, endometritis, reproduction, infertility, massage, reproductive, vibroacoustic.

The aim of the study was to improve the herd reproduction and implement infertility prevention. High level of reproduction and milk productivity of cows is possible only for healthy animals. With year-round stall content, prolonged hypodynamia of cows there are significant hemodynamic disorders, morphological and functional changes in the reproductive organs and throughout the body. Specialists of farms and complexes often cull highly productive cows in the first, second lactation due to disruption of reproduction, diseases of the limbs and breast, it causes enormous economic damage. In cows with endometritis, observed a variety of clinical forms and varying degrees of severity of endometritis. Comparatively high efficiency was obtained with intrarectal application of sapropel. Sapropel – the lake silt formed from the remains of plant and animal organisms, colloidal silt greenish, olive, brown or gray color, greasy consistence. It contains organic nitrogen-containing substances up to 50%, carbohydrates up to 40% and bitumen compounds up to 10%, minerals, salts of calcium, magnesium, silicon, phosphorus, sodium, potassium, aluminum, iron; copper, zinc, manganese, cobalt, iodine, Nickel, molybdenum, etc., as well as vitamins (D, B1, B6, B12), hormone-like bacteriophages, antibiotics, humic acids, etc. Duration of treatment – up to 2 weeks. A significant number of sick cows was an increase in muscle tone of the uterus, the contraction of its walls, active secretion from the uterine exudate. The best results from treatment of endometritis (83.9%) were obtained with intrarectal application of sapropel in combination with vibroacoustic massage and infrared irradiation of cows bags. Only reasonable prevention of hypodynamia and the right approach in solving the problems will give the desired results and reduce the number of imported cattle.

Bibliography

1. Baymishev, M. H. Effectiveness of adaptogens in pathology postpartum period of cows / M. H. Baymishev, V. S. Grigoriev // Veterinary medicine. – 2010. – № 6. – P. 39-42.
2. Beloborodenko, M. A. Characteristics of the reproductive apparatus of cows for the effects for the body stress factors / A. M. Beloborodenko, M. A. Beloborodenko, T. A. Beloborodenko // Mat. international congress of therapists, diagnostics. – Barnaul, 2005. – P. 27-28.
3. Dyul'ger, G. P. Differential hormone therapy of cows with follicular and luteal ovarian cysts under ultrasound control / G. P. Dyul'ger // Veterinary medicine of farm animals. – 2010. – № 6. – P. 32-42.
4. Lobodin, K. A. Reproductive health of highly productive dairy cows of red-motley breed and biotechnological methods of its correction : author. dis. ... dr. vet. sciences : 06.02.06 / Lobodin Konstantin Alekseevich. – St. Petersburg, 2010. – 329 p.
5. Nezhdanov, A. G. Restoration of fertility of cows with ovarian hypofunction / A. G. Nezhdanov, K. A. Lobodin, N. E. Bogdanova // Veterinary medicine. – 2007. – № 7. – P. 39-45.

6. Plemesov, K. V. Fertility of high-producing dairy cows under metabolic disturbance and its correction / K. V. Plemeshow, D. O. Moiseenko // Questions of normative-legal regulation in veterinary medicine. – 2010. – №1. – P. 37-40.
7. Shabunin, S. V. Problems of prevention of infertility in high-yielding dairy cattle / S. V. Shabunin, A. G. Nezhdanov, Yu. N. Alekhin // Veterinary Medicine. – 2011. – №2. – P. 3-8.

UDC 616.1:084

THE TRANSFORMATION OF PROTEIN AND DIET ENERGY INTO MEAT PRODUCTION WHEN BULLS ARE FED BY SILAGE WITH BIOLOGICAL PRESERVATIVES

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Keywords: bulls, transformation, production, protein, diet, preservative, meat, biological.

The purpose of researches is increase of meat efficiency of bull-calves of black-motley breed through the use of canned green mass of alfalfa with Laxil and Silostan when harvesting haylage. The results of the evaluation of the effect of alfalfa haylage harvested with preservatives on the efficacy of bioconversion of nutrients and energy rations in meat products. Scientific and economic experience held in the SEC-farm «Alga» Chekmagushevsky district of the Republic of Bashkortostan. There are three trench silage from alfalfa. In one of them the food was laid with the application of the preservative Laxil, the second – and third Silostan – no preservatives. Laxil preservative was added at the rate of 1 liter per 15 tons of green mass, Silostan – 1 liter to 150 tons. The object of research was 45 bulls of black-and-white breed at the age of 9 months, of which three groups were formed: control and two experienced. Gobies control group received silage of alfalfa harvested without preservatives, and the animals of I and II experimental groups – silage, preserved by Laxil and Silostan. For studying of meat productivity and quality of meat of test bulls control slaughter of 3 bulls from each group was carried out. The results of the study indicate the superiority of calves of the experimental group over their counterparts from the control groups both in vivo and post-slaughter parameters. The results of the evaluation of the transformation of protein and energy feed in the production of bulls compared groups when grown for meat indicate that in the body of young I and II experimental groups were deposited a little more protein compared with peers from the control group.

Bibliography

1. Tagirov, H. H. The Digestibility and utilization of nutrients and energy of food dietary administration of probiotic feed additive «Bogometer» / H. H. Tagirov, F. F. Vagapov // Bulletin of beef cattle. – 2012. – №3(77). – P. 79-84.
2. Tagirov, H. H. Productive qualities of young black-motley breed and its crosses with limousine / H. H. Tagirov, R. S. Iskhakov // Bulletin of beef cattle. – 2015. – №2 (90). – P. 39-45.
3. Dolzhenkova, G. M. Efficiency of utilization of nutrients and energy of diets of bull-calves of black-motley breed in the use of feed supplements BioMarin / G. M. Dolzhenkova, Z. A. Galieva // Izvestiya of the Samara state agricultural Academy. – 2016. – Vol. 1, №3. – P. 40-45.
4. Zhumanova, A. S. Dairy efficiency of cows of red steppe breed of different genotypes / A. S. Zhumanova, E. J. Isaykina , Z. A. Galieva // State and prospects of increased production of high quality products of agriculture : materials of the VI all-Russian scientific-practical conference with international participation. – 2016. – P. 106-109.
5. Voynik, Yu. N. Results of crossing of red steppe breed with Holstein / Yu. N. Voynik, Z. A. Galieva // Innovative directions and developments for efficient agricultural production : math. International. scientific and practical conference: in 2 hours. – 2016. – P. 20-23.
6. Okuskhanova, E. Development of minced meatball composition for the population from unfavorable ecological regions / E. Okuskhanova, F. Smolnikova, S. Kassymov [et al.] // Annual Research & Review in Biology. – 2017. – T. 13, № 3. – C. 1-9.