

СПИСЪК НА НАУЧНИТЕ ПУБЛИКАЦИИ
на доц д-р Вергиния Малинова Гайдарска
ЗА УЧАСТИЕ В КОНКУРС ЗА АКАДЕМИЧНА ДЛЪЖНОСТ „ПРОФЕСОР”
по научна специалност „Говедовъдство и биволовъдство”,
професионално направление 6.3 Животновъдство

1. M. Ivanov, P. Stoikov, Sl. Simeonova, J. Tomova, V. Gaidarska. (1998): „FATTENING OF BULGARIAN SIMMENTAL CALVES TO DIFFERENT AGE” » Cn.” Journal of Animal Science”. 1/1998, p. 5-9.

Summary: For determination of growth intensity in fattening of Bulgarian Simmental bull calves was carried out an experiment with five groups, 12 calves each, fattened from 12 to 20 months of age. Calves were reared at the same conditions on- semi-open grounds with three-wall shed with diet for obtaining average daily gain of 1100 - 1300 g. It was found that Bulgarian Simmental bull - calves fattened from 12 to 20 months (2 month periods) have had the most intensive growth rate from 14 to 16 months and have reached final weight of 546 kg. With increasing fattening age the slaughter yield increased and reached its highest value between 18 and 20 months of age. With increasing the age up to 18 months the percentage of first grade meet increased, and after that it decreased at the expense of second: grade meet. Percentage of fat above 16 months of age increased with 1, 36 points.

2. D.Todorova, N.Petrova, N.Stancheva, V.Gaidarska. (1998): “ FAT AND PROTEIN CONTENT AND SOMATIC CELL COUNT IN ROUGH COW MILK AT DIFFERENT MILK YIELD LEVEL” Cn. „ Journal of Animal Science”» 2/1998, p. 51-54.

Summary: Individual monthly tests were performed on milk yield of Black and White cows on I (n=273) and II (n=156) lactations, bred in Institute of Animal Science - Kostinbrod. Quantity of milk, fat and protein content and somatic cell count in the milk were measured by standardised methods with apparatus of Foss Electric, Denmark. Lactating animals were separated according milk production level in the following groups: less then 10 kg, from 10 to 15 kg, from 15 to 20 kg and above 20 kg milk per day.

Milk from animals produced less then 10 kg was with increased content of somatic cells - 591000/ml from cows at I lactation and 914800/ ml from cows at II lactation. In the lowest milk level group relative number of milk tests with somatic cells exceeded 500000/ml was 32,3% at I lactation and 53,5% at II lactation, while tests in the group exceeded 20 kg that relative number for the considered lactations was correspondingly 9,7% and 16,6%.

Changes in macrocomponents - milk fat and protein follow the changes in milk yield level but statistically significant differences in their- values for the two lactations were not find out. The measured number of somatic cells in the milk from II lactation cows was 1,4 times higher of the number of cell elements in the milk of cows at I lactation, which in line with milk yield, milk fat and protein content was an useful breeding character.

3. N. Petrova, D. Todorova, V. Gaidarska. (1998): „EFFECT OF THE DIFFERENT SOMATIC CEL COUNT LEVEL ON THE MILK PRODUCTION, FAT AND PROTEIN IN HOLSTEIN-FRIESIAN DAIRY COWS”, Cn., Journal of Animal Science”, 6/1998, p.54-57.

Summary: A study was carried out to establish the effect of the different somatic cell count (SCC/less than $4,0 \cdot 10^5$ /ml and to $6,0 \cdot 10^6$ /ml) on the average daily milk production, fat and protein in cow's milk. 85 dairy Holstein-Fresian cows have been examined. The average morning and evening machine milking samples have been tested during lactation period from July to December, 1995. The results obtained have been calculated using standartization limits 3,4% and 3,2 % for milk: fat and protein respectively. The milks with SCC $2,3 \cdot 10^5$ /ml from tested Holstein-Friesian dairy cows have been with 15,4 kg and 15,3 kg average daily milk production at 3,4 % fat and 3,2 % protein respectively for investigated six months of their lactation period. Decreasing of the milk production after 3,4 % fat standartization at the number of SCC $6,5 \cdot 10^5$ /ml; $9,7 \cdot 10^5$ /ml and $5,5 \cdot 10^6$ /mi comparing with SCC $2,3 \cdot 10^5$ /ml has been 5,84%, 11,04 % and 22,27 % respectively. Decreasing of the milk production after 3,2 % protein standartization at the number of SCC $4,4 \cdot 10^5$ /ml; $9,7 \cdot 10^5$ /ml and $5,5 \cdot 10^6$ /ml comparing with SCC $2,3 \cdot 10^5$ /ml has been 1,31 %, 9,8 % and 22,88 % respectively.

4. A. Teneva, I. Dimitrova, V. Gaidarska. (1999): „ASSOCIATION BETWEEN AMY-1 LOCUS AND SOME MILK PRODUCTION TRAITS IN HOLSTEIN COWS.”, Cn.” *Journal of Animal Science*”, 3-4/1999, p. 88-91.

Summary: The investigation included 108 Holstein-Friesian dairy cows, daughters of 9 bulls. All lactations were considered. The direct effect of marker genotypes of AMY 1 locus to milk yield, milk fat content and milk fat yield was analyzed in a one classification of variance (ANOVA).

It was established two allelic variants at the bovine amylase -1 locus. The genetic variant AMY1^C predominate of the other. There was a significant association between genotype AMY-1 B/C and milk fat content, expressive of advantage of genotype AMY-1 B/C as regards genotype AMY-1 C/C. However the contribution of the marker locus AMY-1 to the total variation of the production values was very small.

5. Sl. Simeonova, M. Ivanov, P. Stojkov, J. Tomova, V. Gaidarska. (2000): “STUDY ON THE EFFECTS OF AGE AND LIVEWEIGHT ON MANIFESTATION OF THE FIRST ESTRUS AND FERTILITY OF BULGARIAN SIMMENTAL HEIFERS”. Cn.” *Journal of Animal Science*”, 2/2000, p. 5-10.

Summary: To determine the age and live weight of first estrus and conception an experiment was carried out in Vidin Complex Experimental Station with two groups of 30 female calves each. First group was fed by norms for obtaining an average daily gain (ADG) over 550 g and second group — for ADG over 650 g. The realized ADG from 3 to 18 months for first group calves was 568 g with final weight of 354 kg and second group was with 94 g higher ADG and with 51 kg higher final weight. First estrus was determined on 464.0-th and on 357.4th day of age at live weight of 300.0 kg and 296.6 kg respectively. Second group heifers got pregnant with 65.4 days earlier and were with higher conception rate vs. first group. For manifestation of the first estrus in Bulgarian Simmental calves the live weight that they have to reach at a determined age was of considerable importance.

6. V. Gaidarska, K. Krustev, M. Tateva. (2000): “THE PROBLEM OF SELECTION MODELLING AND PROGNOSTICATION OF THE EFFECT FROM BREEDING BY MILK PRODUCTIVITY” Cn. *Journal of Animal Science*, 6/2000, p. 21-23.

Summary: The increase of dairy cows milk production is to a great extent determined by the intensity of the breeding work - a basic factor contributing to the intensification of dairy cattle husbandry. There is no an unified opinion among research workers, scientists, specialists and practioners about the size or extent of the herd replacement. Those who are for a large herd replacement consider each new generation of animals as possessing higher breeding and productive potential as compared to the preceding ones. With the present investigation we have set ourselves the task of elucidating the age structure of the herd and of studying the effect of selection on milk productivity of cows from the Black-and-White breed.

It has been established that in herds, the milk yield of which varies between 4000 kg and 4600 kg, the optimum herd replacemet is 20% and in herds with milkiness of 5000 kg and 6000 kg the optimum herd replacement size reches 30-35 %. In herds with 4000 kg milkiness 12 to 13 % of the cows fall away on natural reasons.

In herds or farms intended for gcnetic reserve of the breed the replacement should reach 25 % with preliminary' sejection of the first-calf heifers and only those of them whose milkiness exceeds the average for the herd as a whole enter into the basic herd.

7. **V.Gaidarska, M.Krastev, M. Tateva, Sl. Simeonova. (2001): “ ASSESSMENT OF THE REALIZED GENETIC PROGRESS IN BLACK-AND-WHITE POPULATION”** Cn. „ *Journal of Animal Science*”, 3-4/2001, p.48- 52.

Summary: Study was carried out for assessment of the realized genetic progress in Black-and-White population for 4 years period in 4 regions of the country.

Assessment of genetic changes was determined by methods of Smith (1962), modified from V. Kuznecov (1981), that was based on persistency of bulls' genotype over time period, for assessment of genetic changes in dynamics.

Results of study showed that average year genetic gain per cow was +23.7 kg for milk, +0,001% for the percentage and +1.47% kg for fat yield. Low selection intensity of breeding bulls, that were utilized in separate regions of the country was one of the reasons for the not hith realized genetic progress. The economical efficiency of implementation of the separate selection activities and of the breeding programs as a whole could be accurately assessed through the actually realized genetic gain.

8. **V. Gaidarska, M. Krastev, N. Petrova, A. Teneva. (2002):” STUDY ON PRODUCTIVITY AND CONTENT OF MILK OF COWS FROM BLACK-AND-WHITE POPULATION”**, Cn.” *Journal of Animal Science*”, ”, 6/2002, p. 3-5.

Summary: In the study were included 116 cows of Black-and-White breed.

The purpose was to determine sources of specific effect of the basic selection traits - milk yield, fat and protein content in the milk.

Milk yield data were processed and analyzed by Least Squares method, and linear statistical model of **Harvey (1977)** was used.

Genotype of sire influence very well proved on milk yield and qualitative content of milk. Season of calving showed the highest positive effect of influence on milk yield of cows.

9. **V Gaidarska, M. Krastev, M. Tateva. (2002): “ EFFECT OF SOME FACTORS ON LENGTH OF PRODUCTION LIFE OF COWS OF BLACK AND WHITE BREED”. I. FIRST LACTATION MILK YIELD.** Cn..” *Journal of Animal Science*”, 6/2002 p. 5-7.

Summary: For the present study data were used for first lactation milk production of 434 cows for period of 10 year (1986-1996), reared in 11 herds of Rousse region. The effects of year-season, herd, sire and first lactation milk yield on production for production life of animals were accounted for.

Results of the analysis showed that good productive duration of life (4.68 lactations) keep animals with first lactatioi milk yield up to 4500 kg.

Higher milk yield at first lactation influence negatively on the period of farm utilization e.g. the productive longevity decreased.

With the increase the first lactation yield to 4500 kg life time productivity increased to 21 362 kg and after that it decreased negligibly.

10. M. Krastev, V. Gaidarska, M. Tateva. (2002): "EFFECT OF SOME FACTORS ON LENGTH OF PRODUCTION LIFE OF COWS AND BLACK-AND-WHITE BREED". II. AGE AND LIVE WEIGHT AT FIRST CONCEPTION, RESPECTIVELY CALVING" Cn." *Journal of Animal Science*", 6/2002, p. 7 - 9.

Summary: Study was carried out with the aim to determine the effect of live weight at first insemination, and the age at first calving on longevity and length of production life of cows, daughters of Holstein Friesian bulls. Data for live weight at first conception and the age at first calving of 434 cows, daughters of 13 Holstein Friesian bulls. Study covered 10 years period and 11 herds of Russe region.

Results showed that with longer period of farm utilization were animals with live weight at first conception 360 – 400 kg. It was found that the highest period of utilization (4,75 lactations) had animals with calving up to 28 months of age.

Further increase of age at first calving decreased the length of production life of cows. Animals calved the first time over 32 months of age were used with 1.12 lactations less than calved at 28 months of age.

11. Y. Popova J. Jekov, V. Dimnova, V. Gaidarska, M. Taleva N. Chcmshirova. (2002): "STUDY ON INFLUENCE OF REARING SYSTEM ON ECONOMICAL EFFICIENCY OF PRODUCTION IN DAIRY CATTLE" Cn." *Journal of Animal Science*", 6/2002, p. 9-11.

Summary: Objective of the study were cattle farms for 50 cows with the corresponding categories of calves and heifers. Two rearing systems were analyzed - indoor and indoor-pasture.

The objective of the present study was to make comparative analysis of rearing system and its influence on economical efficiency of production in dairy cattle industry.

As a whole the production inputs at indoor-pasture rearing were with 16.26% lower than at indoor one. Income per cow was 438 lv. for the first variant and 746 lv. for the second one. Income rate for indoor variant was 21.13% and for indoor-pasture - 47.04%.

It was found that indoor-pasture rearing of animals in the cattle farms have characterized with higher efficiency of production; the transfer from indoor to indoor-pasture rearing have led to increase of the income from one cow with 308 lv.

12. M. Tateva, V. Dimova, V. Gaidarska, J. Jekov. (2003): »DETERMINING THE MOST PROPER AGE FOR MAXIMUM REPRODUCTIVE UTILIZATION OF BULLS FROM DAIRY BREEDS» Cn. " *Journal of Animal Science*", 1-2/2003, p. 45- 47.

Summary: The study aimed to determine the most proper age for maximum reproductive utilization of bulls. The object of study were 8 bulls at 24 months of age from the Holstein Friesian breed. 2436 ejaculates were assessed.

It was found that maximum age for reproductive utilization was 4-5 years. The number of doses per bull increased with age to 4-5 years. Only through utilization of proven bulls rapid genetic gain could be achieved and the dairy cattle industry recovered.

After the 5 year the number of obtained doses began to decrease slowly.

13. M. Tateva, Y. Popova, V. Dimova, **V. Gaidarska**, J. Jekov. (2003): "INFLUENCE OF THE AGE OF SOME QUANTITATIVE AND QUALITATIVE CHARACTERISTICS OF BULL SEMEN", » Cn. "Journal of Animal Science", 1-2/ 2003, p. 48-50.

Summary: The aim of the study was to determine the influence of age on ejaculate volume and sperm concentration in it.

The study was carried out in the District Breeding Center, Stara Zagora, with 8 bulls of the Holstein Friesian breed, from which a total of 2436 samples were tested. The results were processed by the method of biometrical statistics.

It was found that semen concentration increased proportionally with the age and volume up to 4-5 years of age. After 5 years of age the volume of ejaculate increased from 3.7 to 6.8 sm³ and the concentration was maintained the same or began to decrease.

In result the utilization of bulls up to 4 – years was proposed.

14. **V. Gaidarska**, N Rusev, Y. Popova, M. Ivanov, Sl. Simeonova, P. Stoikov.(2003): "A STUDY ON MILK YIELD AND PROTEIN IN THE MILK OF BLACK-AND-WHITE COWS" Cn." *Journal of Animal Science*", 1-2/ 2003, p. 75-77.

Summary: The objectives of this study were the level of milk productivity and protein and fat content of Blak-and-White cows - dams and their daughters and determining the corelation and regression links between these traits.

Data for milk yield of 64 dams and their daughters with three and more lactations, with high proportion of Holstein- Friesian blood. The daughters originated from 12 progeny tested bulls.

It was found that:

Differences in productivity of dams and their daughters for milk yield, fat and protein percentage in the milk were nonconsiderable and statistically insignificant.

Studied correlation and regression links between milk yield, fat yield, fat percentage and protein percentage of the milk were high and showed a considerable influence of the genotype of animals on the examined traits.

15. Sl. Simeonova, M. Ivanov, P. Ctoikov, **V. Gaidarska**. (2003): "LIFETIME PRODUCTIVITY AND REPRODUCTION ABILITY OF COWS FROM BULGARIAN BLACK-AND-WHITE BREED", Cn." *Journal of Animal Science* ", 3-4/2003, p. 10-12.

Summary: The study was carried out with 658 cows with 2284 normal lactations from Bulgarian Black-and-White breed for the period from 1980 to 2000 in Complex Experimental Station (CES)-Vidin. The animals were distributed in five groups according to the participation of Holstein-Friesian breed (with 50%, 62,5%, 75%, 81,25% and over 87,5%).

The objectives of the study were age at first calving, calving interval, number of calves obtained, lifetime milk yield and lifetime production period.

The results obtained showed that with the highest average milk yield were the cows with 62,5% Holstein – Friesian blood and that with its increase over 87,5% the yield decreased to 4293 kg. The lifetime milk yield, lifetime farm and productive periods and the number of obtained calves decreased with increase of blood from Holstein-Friesian breed.

The age of first calving was in the bounds from 28 to 30 months and the calving period was from 384,8 to 401,6 days.

16. V. Gaidarska, N. Rusev, Y. Gorinov, M. Tateva, J. Jekov. (2003): „**DURATION OF THE LIFETIME PRODUCTIVITY OF BLACK-AND-WHITE COWS WITH A DIFFERENT PERCENT OF HOLSTEIN-FRIESIAN BLOOD**”, Cn.” *Journal of Animal Science*”, 3-4/2003, p.13-15.

Summary: The aim of the study was to determine the longevity and lifetime productivity of Black-and-White cows with different Holstein-Friesian blood of the bulls in herds with a different level of milk production.

The data for milk production and duration of lifetime productivity for 8246 Black-and-White cows with a completed normal lactation (240 – 305), daughters of 13 Black-and-White and 47 Holstein-Friesian bulls was used.

It was found that the increase of Holstein-Friesian blood did not affect considerably the decrease in their longevity and the duration of lifetime productivity. The decrease was clearly expressed in the herds with lower milk production level.

The shortening of longevity and decrease of lifetime productivity duration of cows were considerably influenced not by the degree of Holstein-Friesian blood of the bulls, but by the discrepancies between the environmental conditions and the productive potential of the animals. At longevity lower than 2,5 lactations the reproduction cycle of the herds was disturbed.

17. M Ivanov, P. Stoikov, Sl. Simeonova, V. Gaidarska. (2003): »**DETERMINATION OF THE OPTIMUM FINAL LIFE WEIGHT AT THE END OF FATTENING FOR BULLS OF BULGARIAN SIMMENTAL BREED**«. Cn.” *Journal of Animal Science*”, 3-4/ 2003, p. 19-21.

Summary: The experimental for fattening bulls from Bulgarian Simmental breed was carried out in the experimental base CES – Vidin of the Institute of Animal Sciences – Kostinbrod with the aim to determine the optimum final life mass as well as the changes in the meat quality with aging of calves and to determine the profit rate for the different groups. The experiment was carried out with seven groups of bulls from 400 to 700 kg live mass (at an interval of 50 kg) analogously equalized that were reared and fat under the same conditions.

It was found that Bulgarian Simmental bulls could be successfully fattening to 700 kg live mass with an average daily gain not falling under 1000g. The optimum live mass for fattening was 603 kg when the yield was 62,78%, the fat percentage was low (3,20%) and the rate of profit was the highest (38,11%). Most profitable was fattening at 550 kg – 600 kg live mass and realization of calves for meat and not as live mass, because the higher the live mass, the higher the loss.

18. V Dimova, Y. Popova, J. Jekov, M. Tateva, V. Gaidarska. (2005): « **INFLUENCE OF INTERVAL DISTRIBUTION IN A FREE-STALL REARING BARN FOR 20 COWS ON THE BUILDING EXPENSES** ». Cn. “*Journal of Animal Science*”, 2/ 2005, p. 3-8.

Summary: The object of this study were single-nef buildings single roof closed buildings from light steel bearing constructions for free-stall rearing of 20 dairy cows together with the female calves and heifers. All building expenses in the barn and on the concrete yards were considered. The aim of the study was to find out the influence on the building expenses of the manner of internal distribution of the barn for free stall rearing of 20 cows with the female calves and heifers based on project variants with 2-and-3-rows of stalls. As a result of this study it was found that: Building of a closed barn for 20 cows did not raise considerably the cost with 3-row distribution (with 4,8% per cow). From the total expenses the highest share was for the carrying construction of the barn (21 – 21, 3%) and completing activity (22,4 – 23%). The floor cost 9,6 – 10,2%, the equipment devices 7,1 – 9,4% and the walls 9,5% - 10.8%.

19. Sl. Simeonova, P. Stoikov, V. Gaidarska. (2005): "INFLUENCE OF AGE AT FIRST CALVING AND LEVEL OF MILK PRODUCTIVITY AT FIRST LAKTATION THE PRODUCTIVE LIFF OF COWS FROM THE BLACK-AND-WHITE BREED" Cn." *Journal of Animal Science*", 4/2005, p.9-12.

Summary: In the study included 669 cows of Black-and-White breed, daughters 21 Holstein-Friesian Bulls from Complex Experimental Station - Vidin

The objective of this study were to establishment the influence of age at first calving and level of milk productivity at first lactation of long productive life of cows from Black-and-White breed. Data were analyzed according to statistical methods. It was found that: cows of Black-and-White breed at age at first caiving up to 25 months had has the longest period of longevity and the highest milk life-productivity.

20. Zh. Zhekov, Y. Popova, V. Dimova, M. Tateva, V. Gaidarska. (2006): »ETHOLOGICAL STUDIES OF COWS REARED FREE-STALL WITH MILKING IN A FISH-BONE MILKING PARLOUR«, Cn." *Journal of Animal Science*", 3/2006, p. 3 – 5.

Summary: An ethological study was carred out in the experimental base of the Agrarian Institute - Stara Zagora, with the cows reared free-stall and milked in the fish-bone milking parlour on some activities (duration of the standing, lying, moving and feeding). The persistency of entrance of cows in the same batch for milking and its relation to the milk productivity was traced during the milking in the fish-bone milking parlour.

It was found that 50% of the time during the observation period the cows have stayed predominantly in the feeding area. The laying boxes were utilized for the purpose. During the milking 40,3% of the cows had build stereotypic behaviour and always occupied the same place of the milking parlour. No link was found between the order of entering the milking parlour and the milk productivity of the cows.

21. P. Stoikov, Sl. Simeonova, V. Gaidarska, M. Mihailova-Toneva, R. Petrova. (2006):« *Efficiency of Production at Different Technologies of Fattening Calves of Bulgarian Simmental Breed*» Cn ».Икономика и управление на селското стопанство», 51, 4/2006, p. 50 – 55.

Summary: In Bulgaria there are favourable climatic conditions for the development of cattle-breeding. During the years of transition towards market economy the producers are aiming at stable and competitive production. The appropriate methods of production is one of the factors which have influence on the economic results. The purpose of this article is to present comparative economic analysis of different methods of fattening calves of Bulgarian Simmental breed up to 500 kg weight and to recommended the most effective one. The calves were allocated in four groups: the first group was bred in cattle –shed; the second group in open – air with a shed; the third group was bred in a combined way – up to the age of 15 months in open – air and after that in cattle-shed; the fourth group in covered cattle-shed on floor with a grille. The calves of the different groups were put on equal conditions – age, weght, breed and descent by father. The results show that the calves of the second group have been groing most intensively and for the periodthey achieved 1182 g daily gain. Then comes the first group with gain 1014g. The difference of 168 g is reliable ($P < 0,05$). Near to the results of the first group are the colves of the fourth group with gain of 982 g but the latter is considerably smaller in comparison with the second group 200 g and it is proved ($P < 0,001$). The smallest gain is observed in the third group - 937 gain and it is smaller only is comparison with the second group ($P < 0,001$).

The consumption of foodstuffs for 1kg gain is varied from 6,23 FU at II group to 6,59EU, 6,76FU and 6,93FU at I, IV, and III groups respectively.

Reagarding the expenditure done – the greatest are in III group – 555,17 BGN, IV group – 532,95 BGN, I group - 514,81 BGN, II group – 510,27 BGN.

The greatest received profit is observed at II group – 133,62 BGN, followed by groups I, IV and III with profit of 87,19 BGN, 63,42 BGN, and 55,68 BGN, respectively. The same tendency is observed at the rate of profit also – the highest is at II group - 26,19%, then come I, IV and III groups with 16,93%, 11,90% and 10.05% respectively.

22. Sl. Simeonova, P. Stoikov, V. **Gaidarska**, R. Petrova. (2006): "EFFECT OF FEEDING OF FEMALE BREEDING CALVES DURING THE GROWING PERIOD ON THE WEIGHT DEVELOPMENT, MILK PRODUCTIVITY AND REPRODUCTION ABILITY. I. WEIGHT DEVELOPMENT, AGE AND LIVE MASS AT FIRST ESTRUS AND AT FIRST CONCEPTION" «Cn. "Journal of Animal Science", 6/2006, p. 3-7.

Summary: The experiment was carried out with three groups each of 21 female breeding calves from the Bulgarian Simmental breed. The aim was to determine the effect of feeding level up to 18 months of age on the weight and age at first estrus and first conception of the calves. The ration ensured was for average daily gain of 500 g (I group), 600 g (II group), and 700 g (III group).

It was found that the intensively fed calves of the III group had high average daily gain of 716 g and reached at 18 months to 428.7 kg of live mass and feed utilization of 7.0 NU for 1 kg gain.

The calves of the II group with normal feeding and of the I group with low feeding had at the same age lower live mass with 53.8 kg and 100.0 kg respectively and higher expenditure of NU per 1 kg gain compared to the III group.

The first estrus of calves from the III group appeared at 335.8 days and live mass of 283.1 kg, for the calves of II group at 392.86 days and 290.70 kg and for the I group at 484.40 days and 295.95 kg.

As a result of the more intensive development during the growing period. The III group heifers conceived with 148.6 days earlier than the heifers of the I group and with 57.06 days compared to these of II group.

23. Pl. Yovchevska, V. **Gaidarska** .(2007): "BIOFUEL FROM ANIMAL PRODUCTS - A COMPONENT OF THE MULTIFUNCTIONALITY OF AGRICULTURE" Cn. «Agricultural Economics and Management», 6/2007, p.41-43.

Summary: The aim of the article is to find the connection between production of biofuel from animal products and multifunctionality of the agriculture. The multifunctionality of the agriculture is given by the branch's role in production of the essential agricultural products for both individuals and the society, its significance in preserving the environment, diversification of the production etc.

All these quantity characteristics of the multifunctional of the agriculture determine not only its place in the economy of the rural areas, but also its considerable impact on the national economy.

24. N. Rusev, V. **Gaidarska**, Y. Gorinov, K. Lidgy. (2008): Influence of the level of milk production on reproductive performance on cows of different breeds Cn. „ Journal of Animal Science”, 3/2008, 16-21.

Summary: The objective of the present investigation was to assess dairy farms with different capacity in different regions in the country, according to preliminary methods (Rusev, 2003). The study comprised data from 36 farms with different capacity, generally 1523 cows from different breeds – Black-and-White and Brown breeds and at different lactations. Bulgarian Dairy breeds and the evaluated relationship between milk production and reproductive traits - open days, were studied.

The aim of this study was to establish the influence of the level of milk production and herd size reproduction of Holstein and Brown breed. For realization of the investigation were examined 36 milk farms in the country with a total 1523 cows: 9 milk farms with a capacity of 5 to 10 cows; 11 milk farms with a capacity of 11 to 25 cows; 7 milk farms with a capacity of 26 to 50 cows and 9 milk farms with a capacity of 51 to 280 cows. Milk productivity and duration of service-period were controlled. The results showed that the level of milk production from 7100 – 7300 kg for Holstein and Brown breed does not negatively affect reproductive performance of cows. The amount of milk herds with capacity to 280 does not negatively affect the reproductive performance of cows.

25. N. Rusev, V. Gaidarska. (2008): „ **STUDY AND COMPLEX ASSESSMENT OF CATTLE FARMS WITH DIFFERENT CAPACITY**, Cn. „ *Journal of Animal Science*”, 3/2008, p. 22-28.

Summary: The objective of the present investigation was to assess dairy farms with different capacity in different regions in the country according to preliminary methods (Rusev, 2003).

The study comprised data from 25 farms with different capacity, generally 1313 cows from different breeds and at different lactations. Bulgarian Dairy breeds and the evaluated relationship between milk production and reproductive traits - open days, protein yield, and protein content in milk were studied.

The estimation of the milk productivity, reproductive traits, open days, health condition, feeding and management of the farms was performed on the basis of the statistical analysis.

The average value of cows milk production from the studied farms was within 3890 kg to 7200 kg, for the small, middle as well as the big farms.

The study is a part of a larger research project to account for the effect of the dairy farms. The results demonstrated a good milk yield - the mean milk yield in the investigated herds varied between 3890 and 7200 kg. A high milk yield was obtained in all farms - small, middle and large scale farms. The highest value of the average milk yield was achieved in the large scale farms.

26. Y. Popova, S. Laleva, V. Dimova, V. Gaidarska. (2008): “ **INFLUENCE OF THE EXTENT OF INTEGRATION BETWEEN THE CATTLE AND CROP PRODUCTION ON THE ECONOMICAL EFFICIENCY OF DAIRY CATTLE**” Cn” *Journal of Animal Science*”, 4/2008, p. 5-8.

Summary: The economical efficiency of the dairy cattle was analyzed depending on the integration extent of the production of cattle and crop production.

The objective of the study was a cattle farm with 150 cows and the corresponding female calves and heifers. Three variants of cattle and crop integration were analyzed - with on-farm production of all necessary forages, with own production of the roughages and purchase of the concentrates, and purchase of the all necessary forages.

It was found that:

- the most efficient variant was with the production of all necessary forages;
- from the economical efficiency point of view the functioning of the cattle farms with a purchase of all necessary forages was not advisable.

27. V. Gaidarska, Y. Popova, S. Laleva.(2008): „**A STUDY ON THE LONGEVITY OF BLACK-AND-WHITE COWS**”, Cn. „ *Journal of Animal Science*”, 4/2008, p. 9- 12.

Summary:The aim of the present study was to determine the longevity depending on the age at first calving and the level of milk production (at first lactation) of the Black-and-White cows. The study included 1956 Black-and-White cows - daughters of 53 Holstein Friesian bulls. Data for milk production from the first to the fifth lactation and the age at first calving were used.

It was found that:

- the cows up to 25 months of age at the first calving were with the highest longevity and lifetime milk production. The further increase of the age at first calving led to a decrease of the longevity and lifetime days in milk of the Black-and-White cows;
- the cows with the lowest milk production at the first lactation were with the highest longevity. The increase in first lactation milk production had a negative influence on the longevity.

28 . Харизанова Ц., Русев Н., Гайдарска В. 2008. Проучване на тенденциите на развитие на млечното говедовъдство в САЩ за периода 1998 – 2007 година. Обзор. сп. Селскостопанска наука, 6/2008, София, стр. 44-50.

САЩ е страната с впечатляващ прогрес с мощна, модерна млечна индустрия, която развива съвременно, конкурентно млечно говедовъдство - един от най-големите играчи на световния млечен пазар - производство, преработка, износ. Като ненадминат лидер с най-голямо производство на краве мляко в света, САЩ поддържа световна водеща позиция, благодарение на това, че има силно развито млечно говедовъдство - наличието на благоприятна суровинна база и икономическа среда.

През последното десетилетие страната поддържа тенденция за увеличение на средната млечност при относително постоянен ниво на броя на млечните крави, рязко намаляване броя на млечните ферми и увеличаване размера на млечните стада с 58% за 10 години. Високата концентрация създаде благоприятна среда за ускорено внедряване на модерни технологии, в резултат на което се повиши качеството на млякото, производителността на труда и ефективността на производството. Количеството произведено краве мляко в различните щати варира в зависимост от природните условия, интензификацията на производствения процес и икономическата среда.

Основните фактори за увеличение на средната млечна продуктивност са генетичното подобряване - повишаване на генетичния прогрес, съвременните технологии на отглеждане и производството на краве мляко, управлението, както и повишаване концентрацията на млечните стада. Анализът показва, че с повишаване концентрацията на млечните стада във фермите се увеличава и средната млечна продуктивност.

29. Стойков П., Гайдарска В., Момчилова Л., Харизанова Ц. (2010): „Сравнително проучване върху млечната продуктивност на първа лактация и продуктивното дълголетие на крави дъщери на различни Сименталски бикове”. сп. Животновъдни науки, Приложение 1/2010 г., стр. 80-83.

Целта на изследването е да се установи млечната продуктивност на първа лактация и продуктивното дълголетие на крави, дъщери на различни бици от Сименталската порода, действали в Опитна станция по земеделие –гр. Видин. Проучването обхваща данните за млечната продуктивност и продуктивното дълголетие на 749 крави, дъщери на 8 бика от проучваното стадото.

Резултатите от проучването показаха, че най-висока млечност на първа лактация са достигнали дъщерите на бик Дарино – 3348 kg, следвани от дъщерите на биковете Примус, Диско, Сикс и Ами, съответно с 3307 kg, 3132 kg, 3068 kg и 2964 kg млечност. По отношение на достигнатата пожизнена млечност, дъщерите на бик Ами реализират 14180 kg, следвани от дъщерите на биците Дарино, с (13600 kg), Диско с (12920 kg), Сикс със (12120 kg) и Примус с (11500 kg).

По отношение на продължителността на стопанско използване, дъщерите на бик Дарино са реализирали средно 5,29 броя лактации, следвани от дъщерите на биците Диско (4,70), Сикс (4,66) и Ами (4,54). Най-ниски стойности на показателите бяха установени при дъщерите на бик Пропер: млечната продуктивност на първа лактация е средно 2089 kg, пожизнената млечна продуктивност е 2751 kg, а продължителността на стопанско използване е съответно 1,93 лактации. От получените резултати се установи, че реализираната млечна продуктивност на първа лактация не е повлияла негативно върху продуктивното дълголетие на кравите.

30. Y Popova, Ts. Odjacova, S. Laleva, P. Slavova, V. Gaidarska. (2010): «RATE OF PROFITABILITY OF BULGARIAN RHODOPE CATTLE REARING» Сп. "Journal of Animal Science", 3/2010, p. 9-11.

Summary: The rate of profitability of rearing of the Bulgarian Rhodopes cattle in the Experimental Station of Agriculture and Animal Husbandry (ESAAH) - Smolian was analysed. The object of this study was the cattle farm at the ESAAH where 103 cows and 97 calves and heifers of the Bulgarian Rhodopes cattle are reared. The animals were reared in the barn and on the pasture. The necessary forages for feeding the animals were purchased. The feeding was according to the productivity, physiological stage and the age of the animals. Replacement was with own production heifers. Milking was carried out with a central milk line, cleaning - with a chain-plate transporter, and supplying of the forages - with a forage trailer. The income and expenses were estimated on the basis of the ruling prices.

It was found that:

- the rearing of animals of the Bulgarian Rhodopes cattle is economically advisable under the operating conditions and financing of the cattle farm at the ESAAH, Smolian.

31. Йовчевска П, В. Гайдарска, Й. Попова. (2010): "Екологическа Парадигма на Общата Селскостопанска Политика". Сп. "Journal of Animal Science", 4/2010, p. 3-8.

Резюме: Насоката на бъдещите промени в Общата Селскостопанска Политика (ОСП) като най-широкоформатният обществен регламент на Европейския Съюз са преорентирани към хармонизиране на човешката активност в отрасъла, устойчиво и хармонично развитие, с природния капитал - като незаменим фактор за селскостопанското производство и императив за получаване подкрепа за аграрния отрасъл, което благоприятства пълното използване на потенциала в селското стопанство.

Настъпващите динамични промени в глобализация се свят провокират стария континент да предприема адекватни мерки в защита качеството на природните ресурси, без които възпроизводственият процес в аграрния отрасъл е невъзможен. Промените в ОСП имат за цел да ускорят екологизацията на производството, хармонизацията в спецификата на производствения процес в земеделието, където селскостопанските производители имат съществена роля в опазването на околната среда и съхранение на природните ресурси.

При новия етап на модернизация на ОСП постоянно изменящата се политика се фокусира върху три основни приоритета:

- Конкурентност на селското стопанство;
- Опазване на земята, като незаменим ресурс за селскостопанското производство;
- Диверсификация на селската икономика и подобряване качеството на живот в селските райони;

Третият етап на модернизация наречен «здравен преглед» е следствие на променящата се среда на земеделската дейност. Условиата за развитие на селското стопанство в България, новите мерки в посока на модернизиране на общностната селскостопанска политика, парадигмата за екологизация на ОСП - дават възможност на селскостопанските производители да удовлетворят все по-нарастващото търсене на храни на световните пазари.

32. T. Ivanova, V. Gaidarska. (2010): 'STUDY ON THE SELECTION INTENSITY IN BLACK-AND-WHITE COWS', Сп. "Journal of Animal Science", 4/2010, p.48-50.

Summary: A study was initiated to establish the intensity of selection in Black- and- White cows. It involved systematized and processed milk records of 484 adult (main herd) and 198 primiparous cows from three herds of different productivity: herd I - Agricultural Institute - Shumen with average milk yield > 6500 kg; herd II - "Obraztsov Chiflik"- farm, Russe, with > 5500 kg; and herd III - Institute of Animal Sciences, Kostinbrod, with > 4500 kg. The data were analyzed using the conventional statistical procedure.

The results indicate that:

- The selection intensity for the trait milk yield in the studied Black- and- White cows has optimal values ranging from 0.69 to 0.85 among herds.
- The milk yield in the herd mainly ranged from 4586.43 to 6831.16 kg , and for heifers ranged - and from 4537.69 to 4635. 23 kg .
- For the replacement in the main herds on all three farms have been done by the productive generations.

33. Иванова,Т., В., Гайдарска. (2011): «Оценка на развъдната стойност на майките-бикопроизводителки от Холщайн-Фризийската порода». Сп. «Journal of Animal Science », кн 1/2011, 58 – 62.

Резюме: Целта на настоящето изследване е да се направи оценка на развъдната стойност на селектираните майки-бикопроизводителки по продуктивни признаци и определи величината на генетичното им превъзходство над средното за стадото.

Обект на проучването е стадо от крави, от Холщайн-Фризийската порода в Земеделския институт - гр. Шумен. Изследването обхваща периода от 1993 до 2001 година. Оценката на генотипа на майките - бикопроизводителки е изчислена като средно отклонение на лактиращите крави от средната стойност на стадото и тази величина служи за количествено определяне на развъдната стойност.

Генетичното превъзходство на майките – бикопроизводителки е определено на базата на фенотипното отклонение от средното за стадото и херитабилитета на признаците. Резултатите от проучването показаха, че в стадото на Земеделския институт – гр. Шумен за бикопроизводителки са селектирани крави с висок процент мастни вещества и млечно масло спрямо средните стойности за стадото. Генетичното превъзходство за млечна продуктивност е високо спрямо средното за стадото, което се дължи на високите стойности на коефициентите за унаследяемост. Резултатите потвърждават, че при Холщайн-Фризийската порода в стадото на Земеделския институт в Шумен се провежда високоефективна селекция, която на практика допринася за увеличение на генетичния потенциал на породата.

34. P. Stoikov, V. Gaidarska, T. Ivanova, Ts. Harizanova. (2011): “ STUDY OF MILK PRODUCTIVITY AND PRODUCTIVE LIFE SPAN OF COWS FROM BULGARIAN SIMENTAL BREED”. сн. “Journal of Animal Science “, 3/2011, p. 3-6.

Summary: The aim of this study was to determinate milk productivity, productive life span, and longevity of Bulgarian Simntal cows with different lactation. The data of milk production and duration of lifetime productivity for 312 cows, daughters of 14 bulls of Bulgarian Simmental breed, was used, during 1980 – 2001 period. For establishment the efficiency of productive and reproductive indices of cows a study have been used. Were analyzed milk production, and maximum lifetime milk yield, age at first calving, duration of economic use of cows, milk yield for one lifetime day, milk yield for one economy day, milk yield for one productive day, lifetime number of lactations, lifetime number of calves.

The results showed that cows of Simmental breed has had milk productivity from 2911 kg to 3450 kg milk yield, productive live – duration of economic use of cows is 1601,6 days, and lifetime milk yield is 12 864 kg, with 4,09% fat content in milk. The longevity of cows from Simental breed is over 5 lactation, lifetime number of lactations is apoximately 4.23, and the lifetime number of calves is 4.57

35. Y. Popova, Tz. Odjakova, S. Laleva, V. Dimova, V. Gaidarska. (2011): « **ECONOMIC EFFICIENCY OF PROCESSING COW AND SHEEP MILK, PRODUCED AT THE FARMS OF ESAL - SMOLYAN**» *cn. Journal of Animal Science*, 3/2011, p. 16-19.

Summary: *The economic efficiency of the processing cow and sheep milk produced in their own cattle and sheep farm in OSZJ - Smolyan was analyzed.*

Object of the survey is manufacturing of dairy products in the workshop for processing milk in OSZJ - Smolyan. It produces fresh cow's milk, cow and sheep's yogurt and cow's butter. Raw material production - sheep and cow's milk, is harvested at their cattle and sheep farm.

It was found that under the conditions of functioning and financing of cattle and sheep farms, also workshops for processing milk OSZJ-Smolyan is cost-effective production of fresh cow's milk, sheep and cow's yogurt and cow's butter through the processing milk obtained from cows of the Bulgarian Rhodopy cattle and sheep from Karakachan breeds livestock in their farms.

36. V. Gaidarska, T. Ivanova, Ts. Harizanova, P. Stoikov. (2011) „**INVESTIGATION OF THE LEVEL OF MILK PRODUCTION UPON REPRODUCTIVE CAPACITY OF BLACK-AND-WHITE COWS AND COMPLEX ESTIMATION OF CATTLE BREEDING FARM**”, *cn. Journal of Animal Science*, 4/2011, p. 3-8.

Summary: *The goals of this study were to estimate dairy farms and investigate of the level of milk productivity upon reproductive capacity of the cattle-breeding farms - 100 with different capacity, generally 10791 cows, from the Bulgarian Dairy Black- and- White breed. The 100 cattle breeding farms were inquired and the number of cows (I, II, III and IV) groups.*

Data for the study were gathered according to Rusev's methodology. The highest average estimation according to the investigated indicators was got in farms with 51-500 cows.

The estimation of milk productivity, reproductive traits, open days, health and hygiene, feeding, management, and economics of the farms was performed on the basis of the statistical analyses.

The average value of the milk production of cows from the investigated farms varies from 3600 kg to 7400 kg.

The study is a part of larger research project, connected to dairy farms in Bulgaria.

37. Petar. Stoikov, **Verginia Gaidarska**, Tsvetana Harizanova, Tatiana Ivanova, Radostina Stoikova. (2011): ” **STUDY THE AGE OF WEANING ON WEIGHT ON DEVELOPMENT OF BULGARIAN SIMENTAL BREED**” . *Cn. „Journal of Animal Science,”* 5/2011, p. 11-15

Summary: *The objective of the study was to determine the impact of weaning age on weight development, growth and feed for 1 kg gain (growth) in calves from the Bulgarian Simmental breed, fattened to 700 kg live weight.*

Two groups with 12 calves in each were formed. Calves from I group were weaned at the age of 3 months, while those from group II were suckling from their mothers until 7 months of age.

It was found that the intensity of growth of the animals was significantly higher in calves suckling to 7 months of age and they have achieved significantly higher average daily gain with 18.81%, ($P < 0.01$) compared to the control group which has realized an average daily gain of 1139 gr., for 90-day period. As a result of weaning which usually causes stress, calves from the second group decreased rate of weight development, but at 12 months of age the average live mass was with 12.44% higher (448.62 against 399.00), compared to the analogues from the first group, weaned at 3 months of age and the differences for live weight and daily gain were significant ($P < 0,05$ and $P < 0.01$). All data were statistically processed.

38. TS. HARIZANOVA, V. GAIDARSKA, P. STOIKOV. (2012): „Justification of the minimum required rate of return on equity in dairy cattle farms”. *Сн. „Agricultural Economics and Management”, 57, 2/2012, p. 17-22.*

Summary: Cattle breeding is a strategically important sector for each country. In Bulgaria there is a tendency towards a gradual concentration of productive herds, reducing number of farm with up to 10 cows at the expense of larger ones. The majority of farms from third category determines the low productivity of the sector and uncompetitiveness of the production.

The aim of this study was to justify the minimum required rate of return on equity in dairy cattle farms by category in Bulgaria for 2011. Projects for modernization and reconstruction suggest a lower risk but lower return on investment.

Projects for adoption of modern technologies are riskier, but also imply a higher return, higher labor productivity, higher quality and quantity of milk. They create conditions for: improving working environment, concentration of herds, animal welfare, better environment protection and prerequisites for realization of genetic potential of animals.

39. В. Гайдарска, М. Итнатова. (2013): “Тенденции в развитието на млечното говедовъдство, ”Животновъдни науки ” 4-5/2013, стр. 9-16.

Резюме: Млечното говедовъдство, производството, преработката и пазарът на мляко и млечни продукти в света през последните години се развива със светкавична бързина и динамика. Млечното говедовъдство постигна забележителен прогрес, дължащ се на постиженията в популационната генетика, селекцията, ембриотрансфера, системите на хранене, иновационните технологии.

Целта на изследването е да се проучат и анализират тенденциите на развитие на млечното говедовъдство в национален и световен мащаб. Проследени са насоките на развитие и динамиката на изменение в броя на млечните крави, общото количество произведено мляко, преработката на мляко в сирена, кашкавал, сухи продукти, общо световно производство ва свежи продукти и концентрирано мляко, консумацията на мляко на глава от населението в света и у нас. Използвани са различни статистически данни и източници (DAAS, 2011, 2012, 2013; Dairy World Markets and Trade, 2011, Eurostat News 2010; Статистически справочници и Аграрни доклади на МЗХ за 2010, 2011 и 2012 г. За да се справи с предизвикателствата на глобалната конкуренция в света млечното говедовъдство в страната ни трябва да има ясно очелтаваща се благоприятна икономическа сред: да може ефективно да използва субсидиите за подкрепа и инвестиции от ЕС по различни програми. Изграждането на крупни високотехнологични ферми с капацитет 400 - 1000 крави с производство на биогаз и ток от торова маса са приоритет за арендатори обработващи над 10 хил. декара земя.

40. V. Gaidarska, Ts. Harizanova-Metodieva, T. Ivanova. (2013): “ STUDY ON THE CORRELATIONS BETWEEN DIFFERENT PARAMETERS AND EVALUATION OF DAIRY FARMS,”*Сн. “Journal of Animal Science”, 4-5/2013, p. 17-19.*

Summary:The aim of the paper is to study the correlation coefficients between the different parameters for evaluation of dairy farms. It was investigated 17 dairy farms from different regions in Bulgaria. The coefficients of correlation were calculated between: number of cows, status of the herds, milk productivity, content of protein and fatty substances in milk, service period, reproduction, health status, feeding, milking, hygiene, economics and management of farm.

The coefficients of correlation were computed with SPSS 9.

As a result of the study, it was found that with the increase in the number of cows, the economics and management also increase; improved hygiene, microclimate, reproduction, feeding and management lead to an increase in average milk yield; with the increase in multiplicity of milking, fatty substances in milk reduce; the improvement of reproductive performance of the animals leads to shorter service period; with an increase in farm hygiene the microclimate improves and others.

41. Tsvetana Harizanova – Metdieva, Virginia Gaidarska, Tatiana Ivanova.(2014): «**RELATIONSHIPS BETWEEN SOME PRODUCTIVE VARIABLES IN DAIRY CATTLE BREEDING FARMS**” *cn. Agricultural Science*, 47(1)/2014, p. 54-58.

Abstract: The aim of this study was to establish relationships between some productive variables in dairy cattle breeding farms in Bulgaria.

The research encompassed 24 dairy cattle farms from different regions in Bulgaria. Data were collected in 2013 by visiting the farms and interviewing the farmers.

The next variables were studied: number of cows in the main herd, average milk yield, length of the service period, age of inclusion in the main herd, annual cull rate, and average number of lactations per cow in the main herd. Correlations were calculated between the analysed variables.

It was found that the achieved average milk yield of 5437 kg per cow in the surveyed farms was above the average for the EU-2, but was significantly below the average for the EU-27. The capacity of surveyed farms had significant effect on average milk yield (0.643***). The average length of the service period was 115 days and it was correlated with the age of inclusion in the main herd (0,611***). By increasing the farms' size, the cull rate, also increased (0,416**).

It was observed a tendency, that with an increase (0,370*), which was connected with the intensification of dairy production and with reproduction problems.

42. V. Gaidarska, T. Ivanova. (2014): “**INFLUENCE OF THE CAPACITY OF DAIRY CATTLE FARMS UPON THE AVERAGE MILK YIELD AND AVERAGE LENGTH OF SERVICE-PERIOD**” *Cn. Cn. „Journal of Animal Science*,” 6/2014, p. 40 - 43

Summary: The aim of the study was to investigate the influence of the capacity of dairy cattle farms upon the average milk yield and average length of service-period. To achieve the aim of the study they were studied 41 dairy cattle farms from different regions in Bulgaria with a total of 8547 cows. According to the number of cows in the main herd, the farms were divided into three groups: first group - up to 49 cows, the second group - from 50 to 100 cows, and the third group with more than 100 cows.

The study was conducted by using the following statistical tests: Kolmogorov-Smirnov Test, Levene's Test of Homogeneity of Variances, Welch Robust Tests of Equality of Means, Brown-Forsythe Robust Tests of Equality of Means and Kruskal-Wallis test.

As a result of the analysis, it was found that the difference in the average length of service-period in the three groups of farms was significant. The shortest was the service-period in the second group (from 50 to 100 cows in the main herd) - 100 days, and the longest - in the group of farms with more than 100 cows. No significant difference was found in the average milk yield between the three groups of farms.

43. Ts. Harizanova-Metdieva, V. Gaidarska, T. Ivanova. (2015): “**CLUSTER ANALYSIS OF DAIRY CATTLE FARMS**” 2015, *Научна конференция 65 години ИЖН - Костинброд* . *Cn “Journal of Animal Science ”*, 6/2016.

Abstract: The aim of the study was to group and analyze dairy cattle farms according to their characteristics by applying cluster analysis. It was analyzed 49 dairy cattle farms from different regions in Bulgaria. Survey data was collected by visiting the farms. The data were processed according to the methodology of Rusev, 2003. The study covered a period of 2012-2014. The following indicators were analyzed: number of cows in the main herd, average milk yield, service-period, health status, feeding, milking, cleaning, economics, and microclimate.

Using cluster analysis / K- Means Clustering / the farms were grouped into 3 clusters. The first cluster consists of 8 farms, the second – 24 and third – 17.

The first cluster includes small, relatively low productive farms; the second cluster comprises a relatively large farms for the conditions of our country with sufficient milk production; and third cluster includes large farms for our country with a high milk production in which technological operations are at relatively high level

44. Teneva, A., I. Dimitrova and V. Gaidarska. (1998): “*Relationship Between Transferrin and Ceruloplasmin Genotypes and Dairy Performance in Holstein-Friesian Cattle*”. *Cn. Bulgarian Journal of Agricultural Science*, 6/ 1998, p. 815-821.

Abstract: First, second, third and fourth lactation milk yield milk fat content (%), and milk fat yield (kg), were analyzed to determine the possible association between two genetic loci and milk production in Holstein cows. The polymorphic systems examined were serum transferrin and ceruloplasmin.

The total data included 105 lactations. Milk fat content differences were significantly associated with the genotypic classes involved at the the transferin locus at second lactation. It was established a significant association between transferrin genotypes and third lactation milk yield and milk fat yield ($P < 0.05$). The ceruloplasmin system was no significant deviations for the production traits studied.

45. Krustev K, V.Gaidarska and I.Yanchev. (2000): “*Seasonal Changes of Fat Content of Milk of Black – and White Cows*”, sp. *Bulgarian Journal of Agricultural Science*, 6 (2000), p.697-700.

Abstract: The effect of abiotic ecological factors (temperature, relative humidity and air velocity in the barn) by season on fat content of milk of climatically healthy Black-and-White cows for a normal 305-day lactation was studied.

The animals were raised year-round tied in a barn, constructed of concrete steel panels with natural ventilation. Excrements were disposed of by flat-chain transporter. Cows were milked by aggregates in milk-cans, watered in individual watering-troughs and fed in cement cribs.

It was established that the biological regularity of milk fat content increase at the end of the lactation period is directly influenced by the season of the year, which is a sum ecological factor.

When lactation is comilg to an end in autumn and winter, this regularity is enhanced by the effect of low temperature and increased humidity. On the contrary, cows with the second half of lactation in spring and summer show that the biological regularity is inhibited and fat content is either maintained or decreasing under the influence of higher temperature and low humidity of the production environment

46. Gaidarska, V. K.Krustev,Sl.Simeonova, M.Ivanov.(2001): “*Influence of environmental and genetic factors on the milk yield and phenotypic and genotypic parameters of milk production in Black-and-White dairy cows in Bulgaria*”. *Biotechnology in Animal Husbandry vol. 11-15, Belgrade-Zemun*.

Abstract: An investigation was carried out to determine the phenotypic and genotype correlation between the basic milk production traits and to evaluate their heritability coefficients (h^2). Records for 3254 cows having at least 8 consecutive month control measurements for 11 years of productive life in the herd of the Experimental farms of the research Institute of Animal Science-Kostinbrod were processed.

The experimental animals were daughters of 112 Black- and -White sires, belonging to the following breed groups: Holstein Friesian (HF), German Blak and White (SMR), and crosses of HF x SMR. The data was processed using the least method (Harvey, 1977), on the basis of mixed linear statistical model. The analysis indicated high and positive genetic correlation coefficients between average milk yield per month and lactation milk yield, and milk butter yield.

47. J. Jecov, J., Y. Popova, V. Gaidarska, V. Dimova. (2003): “ INVESTIGATION OF SOME FACTORS OF BEHAVIOUR AND MILK PRODUCTION OF COWS BRED TIED WITH MILKING DUCT”. *Biotechnology in Animal Husbandry*, 19(1-2), p. 25-31, Belgrade-Zemun.

Abstract: The etological research took part on the farm on the Institute of Animal Breeding in Stara Zagora, Bulgaria with three groups consisting of five cows each, leveled by the method of the analogues in regard to the breed, age, lactation, and milk yield.

The purpose of this investigation was to determine the influence - changing of the permanent places of cows, change of the sequence of milking and changing of the neighbors bilateral under the main behavior reactions (standing, lying, feeding, moving) and milk production of lactating cows bred tied with milking performed by milk duct.

During this research we made visual observations of main reactions of behavior (standing and lying) by the method of group chronometers measuring after 5 min, a day before and 2 days after the change. A control was done under an average daily milk yield and continuing of the milking of each cows from the three groups.

We found that the complex change in the investigated factors registered impermanent changes in the built stereotype of animals shown with the changing of main behavior reactions and increase of average daily milk yield.

48. Yovka Popova, Vania Dimova, Jeko Jevcov, Verginia Gaydarsca. (2003): “INVESTIGATION OF SOME LIMITING FACTORS FOR SELECTION OF HERRINGBONE MILKING PARLOR. *Biotechnology in Animal Husbandry*, 19 (3-4), p. 15-18, 2003, Belgrade-Zemun.

Abstract: We've studied different modified types of herringbone milking parlor 2x3, 2x4, and 2x5 with single or double milking apparatus.

The purpose of this investigation was to establish some limiting factors in selection of different types of herringbone milking parlor. Basic criterion for this selection was that the herringbone milking parlor was to be controlled by one milker.

The time needed for different milking operations was measured by chronometer and chronography on the farm of the Institute of Animal Breeding in Stara Zagora, Bulgaria.

We have established that:

- The main factor for selection of the herringbone-milking parlor with single milking apparatus is continuity of the process of milking for all herds, including the organization of work.
- The main factor for selection of the herringbone-milking parlor with double milking apparatus is the duration of machine milking of the cows.

49. Gaidarsca V. N. Rusev, Y. Popova. (2004): “CORRELATION BETWEEN THE BREEDING INDICATORS OF BLACK AND WHITE COWS IN BULGARIA”. *Biotechnology in Animal Husbandry*, 2004, (1-2) vol. 17-21, Belgrade-Zemun.

Abstract: The objective of this study was to estimate coefficients of variability, heritability genetic and phenotypic correlations between indicators of milk productivity in relation to milk yield and fat content, butter fat and protein content in milk.

A primary objective of this study was to determine coefficients of variability, heritability, genetic and phenotypic correlation between indicators of milk productivity and protein content, butter fat and protein content in milk.

Heritability, genetic and phenotype correlation of milk productivity and protein content in milk of Bulgarian Black-and-White cows were estimated, using the linear statistical model (Harvey, 1977).

It was found that genetic correlation between milk yield and percent of milk fat was negative. The established coefficients of correlation in the studied chosen animals of Black-and-White cattle show that the correlation between milk yield and milk fat is not significant, and that there is a negative trend.

50. Gaidarska, V. (2009): "EVALUATION OF GENETIC TREND OF THE BULGARIAN DAIRY POPULATION". *Biotechnology in Animal Husbandry* 25 (5-6), 639-644, 2009. Publiher: Institute for Animal Husbandry. Belgrade-Zemun

Abstract: *The objective of the present investigation was to estimate genetic trend on the productive traits – milk yield, fat % content and butter fat in milk of Black-and-White dairy cows in Bulgaria, rearing by the traditional technology, for the period 1996-2005 year.*

The study included data for milk productivity from first lactation for 29125 Black-and-White dairy cows with a completed normal lactation (240-305 days), offspring of 473 Holstein-Friesian bulls, which was used for analyses. Evaluation of the realized genetic gain was carried out according to the modified by (Kuznetsov 1981) methods of (Smith, 1962), based on the hypothesis concerning the persistency of the producer's genotype in time.

The genetic statistical analyses of data indicated that the realized genetic gain during the ten years, was yearly + 26, 48 kg of milk per cow and +0,0043% of fat content in milk. The comparison of the phenotypic, genetic and paratypic changes in dynamics showed that, the breeding process from the aspect of genetic change is very slow.

Data used represented all available records of official data of milk recording for all controlled Black-and-White cows at first lactation, from Executive Agency of Selection and Reproduction in Animal Breeding in Sofia (ASRAB, region, Bistrica, Sofia).

Based on obtained results, it was established that the genetic trend of Black-and-White dairy cattle population, for milk performance was +26,48 kg milk yield and +0,0043% fat content in milk, phenotypic trend was +25, 65 kg, of milk per cow, and +0,0500% fat in milk, and paratypic trend was – 0,83 kg of milk per cow and 0,0457% fat in milk. Irrespective of the achieved results the possibility es for genetic improvement of Black-anf-White bread are not depleted yet. This is supported by both: the theoretical and practical results.

51. Ivanova T., Gaidarska V., Harizanova T. (2011): "Correlations between the number of somatic cells and qualitative and quantitative parameters of milk depending on the stage of lactation of cows from the Bulgarian Black and White breed."3- International Congress " New Perspectives and Challenges of Sustainable Livestock Production" Belgrade – Serbia, 5-7 October 2011, J. *Biotechnology in Animal Husbandry*, vol.27(3), book 2, p. 969-974.

Abstract:*The study was conducted to establish correlations between the number of somatic cells and quantitative and qualitative parameters in the milk of cows from the Bulgarian Black and White breed. 819 numbers of individual milk samples were tested.*

The controls were conducted in spring-summer period (April - September) of 2009. The controlled parameters were milk fat (%), total protein (%), somatic cell count (number / ml), milk fat (kg) and milk protein (kg).

Distribution in groups: depending on the stage of lactation – up to the 120 th day of the lactation (n = 292) and after the 120th day (n = 527) and according to the level of somatic cells in milk- up to 400000 somatic cells / ml, from 400000 to 500000 somatic cells/ml and more than 500000 somatic cells/ml. Relationship between the studied parameters is represented by the values of linear correlation. The results show that there are from moderate to high positive correlations between the amount of milk yield per day and quantitative parameters milk fat and milk protein per day for the three levels of somatic cells.

Correlation coefficients between the amount of milk yield per day and quality parameters – milk fat (%) and total protein (%) per day for the three levels of somatic cells were negative and moderate. The relationship between the number of somatic cells in milk and quantitative and qualitative parameters is low.

52. Rusev N., Bachvarova S., Gaidarska V., Harizanova Ts., Stoykov P., Ivanova T. (2012):” **STUDY ON BASIC CRITERIA OF A GRADE OF DAIRY FARMS WITH DIFFERENT HERD SIZE**” *Bulgarian Journal of Agricultural Science*, 18(6), 2012, p. 958-964.

Abstract: In the present study a comprehensive assessment according to basic criteria of cattle farms with different capacities was made. The study was carried out through visits and personal interviews with farmers according to the certain methodology. Farms were divided according to their capacity into three groups. The following parameters were monitored: status of the herd, milk production, reproduction, service period, health status, feeding, milking, cleaning and recycling of manure, microclimate, management and economics of the farms.

The result of the study showed that herd size had no significant effect on milk production. There is a clear trend for higher milk production with the increase of the number of cows in the herd. Farms with more than 50 cows had 13.11% higher average milk yield compared to the group up to 25 cows and 6.12% higher than the farms with herd size from 26 to 50 cows. Length of service period in the investigated dairy farms ranged from 60 to 140 days, the shortest service period was reached in small and medium-sized farms - 82.5 and 81.5 days, where the cows were raised stable-pasture during the summer period.

The selection mainly in large farms was in a better level compared to that in small farms. In larger farms first class bulls with high reliability and inheritance of the type and milk production were used. Only 10% of investigated farms applied modern system of feeding TMR. Farms with 51 to 460 cows had significantly higher grade for the quality of milking process and they used milking equipment, which had direct influence on production of better quality milk than in small farms. With increasing of the farm size, the grade is higher in management, economics and development prospects, which indicates higher competitiveness of these farms.

53. Гайдарска В. М. (2009): “Влияние молочной продуктивности на репродуктивные признаки и комплексную оценку черно-пестрых коров,” Российская Академия сельскохозяйственных наук – Северо-Западный научный центр, Всероссийский научно-исследовательский институт генетики и разведения сельскохозяйственных животных, (ВНИИГРЖ), Международной научной конференции ”Достижения в генетике, селекции и воспроизводстве сельскохозяйственных животных” **Ленинград-Пушкин, Россия 9-11 июня, стр. 2009, 68-72.**

Резюме: Нами была поставлена задача провести исследования и изучить влияние молочной продуктивности коров в молочных фермах (стадах), отличающихся как по численности поголовья, так и по-уровню молочной продуктивности на репродуктивные признаки коров черно-пестрой породы. Материалом для исследований являлась база данных коров, которых оценивали по методике Русева в 73 молочных стадах на поголовье 6768 голов разных лактаций расположенных в различных районах страны.

Анализируемые данные сгруппировали в 4 группы, в зависимости от величины размера молочных хозяйств: 8 ферм с поголовьем 5-10 коров, (66 гол.), 11 ферм с поголовьем 11-25 коров (270 гол.), 26 ферм с поголовьем 26-50 коров, (854 гол.), 28 ферм с поголовьем 51-550 коров , (5578 гол.).

На основании проведенных исследований можно констатировать, что генетический потенциал по молочной продуктивности на фермах с различным числом животных имеет высокую вариабельность, которая зависит от используемых быков-улучшителей; размер молочных стад не оказывает влияния на молочную продуктивность Черно-Пестрой породы.

54. Harizanova T., Gaidarska V., Stoikov P. (2011): "CORRELATION IN DAIRY CATTLE BREEDING" „Realizări și Perspective în Zootehnie, Biotehnoiogii și Medicină Veterinară”, 6-8 October, 2011, Maximovca, Moldov, p.159-162.

Abstract: The effectiveness of Cattle breeding depends on the high milk production and associated with it biological and economic benefits.

Among the main factors that influence the production of cow's milk are: productivity and health status of cows the technology of animal breeding mechanization of production process, availability of labo and public policy.

The aim of this study was to analyze the basic relationships between productive, reproductive and economic parameters in dairy cattle breeding. It were studied and evaluated 54 dairy farms from different regions in Bulgaria with a total of 4558 cows. Comprehensive assessment was made through personal interviews with farmers. The data were evaluated according to the methodology of Rusev, 2003. The main correlations between the parameters are:

:

- There is a negative correlation between length of service period and reproduction of animals .The correlation between length of service period and health status is also negative.
- Better milking equipment led to better farm hygiene. The quality of farm management directly affects hygiene.
- There is a tendency to improve feeding, milking technology, hygiene and quality of farm management when the number of cows increases.
- There is a positive relation between feeding and: milking system, hygiene, economics and farm management.

55. Гайдарска В. М. (2011): 'Комплексная Оценка Черно-Пестрых коров Болгарии'. Scientific Symposium with International Participation, dedicated to 55 anniversary of the founding of the Institute. "Achievements and perspectives in animal Husbandry, biotechnology and veterinary medicine", Moldova, 6-8 october Maximovca, p. 313-316.

Abstract: The goals of this study were to estimate dairy farms and investigate the level of milk productivity upon reproductive capacity of the cattle breeding farms -115, with different capacity, generally 12609 cows, from the Bulgarian Dairy Black and White breed. The farms were separated in 4 groups according to the number of cows.

Data for the study were gathered according to Rusev's methodology. The study spanned the period from 2008 to 2011 year. The highest average estimation according to the investigated indicators was got in farms with 51-500 cows.

The present research base on a large scale of the investigation of the cattle breeding farms with different capacity in Bulgaria.

56. Гайдарска В.М. (2011): „Продуктивное долголетие коров и продолжительность хозяйственного использования черно-пестрой породы в Болгарии”.Scientifical and Practical Institute of Biotechnologies in Animal Husbandry and Veterinary Medicine, 6-8 October,. Молдова. p.317-322.

Abstract: The aim of the present study was to determine the longevity depending on the age at first calving and level of milk production of the Black-and-White cows in Bulgaria.

The study included 4890 cows daughters of 78 Holstein-Friesian bulls.

Data for the milk production from the first to the fifth lactation and the age at first calving were used for analyses. It was found that the cows with the lowest of level of milk production at the first lactation were with the highest longevity and with increase in first lactation milk production had a negative influence on the longevity. The results obtained allow to improve methods and selection and breeding effords, aimed at increasing the duration and using of the Black-and-White cows.

57. Иванова Т., Гайдарска В., Харизанова Цв. (2011): "Влияние возраста коров и генеалогической линии быков на репродуктивных аномалии у коров". *Scientific and Practical Institute of Biotechnologies in animal Husbandry and Veterinary Medicine*, 6-8 October, Молдова, p. 365-368.

Abstract: Subject of the study were 1321 Holstein-Frisian cows from the herd of Agricultural Institute – Shumen with a total of 4309 calvings within the period 1976 -2007 year.

The overall number of stillborn calves in the two age groups was 247.

To test the effect of age of cows, and genealogical line of sires a dispersion analysis of non-orthogonal complex of traits, constructed by Eftimov (1972), was used.

The results indicate that age of cows plays significant effect on the rate of stillborn offspring. It was established that sires' lineage does not influence the incidence of stillbirth.

58. Козелов Л., Гайдарска В. (2011): "Состояние и Перспективы Развития Молочного Скотоводства в Болгарии". *Scientific Symposium with International Participation, dedicated to 55 anniversary of the founding of the Institute. "Achievements and perspectives in animal Husbandry, biotechnology and veterinary medicine"*, Moldova, 6-8 October Maximovca, p. 391-399.

Abstract: Milk production is the most important agricultural activity all the world, including Bulgaria: Dairy cattle as always plays an important role in livestock production of Bulgaria. The objectives of the present investigation was to study and analyze the terms of reference and tendency development of Bulgarian Dairy Cattle Breeding, especially the dairy cows, raised primarily to produce milk yield for human consumption. Dairy Cattle Breeding in Bulgaria was in a deep depression during the last 20 years. The depression affected seriously the state of our Cattle Breeding. Modern milk production in Bulgaria will undergo a radical change both in terms of the dairy farmer and the breeding companies. In this respect cooperation between the companies and breeding associations will be a necessary tool to survive in the dairy economy at the present time. The Bulgarian dairy industry is based on stable competition advantages, therefore the improvement of the dairy cattle industry and gaining a market share are possible future prospects.

59. В. М. Гайдарска. (2011): „ОЦЕНКА ГЕНЕТИЧЕСКИХ ИЗМЕНЕНИЙ В ПОПУЛЯЦИИ ЧЕРНО-ПЕСТРОГО СКОТА В БОЛГАРИИ”, Национална Академия Аграрных Наук УКРАИНА – институт разведения і генетики тварин - разведения генетика тварин- Аграрна наука, Геномна селекція у тварництвістан та перспективи розвитку Киев, України, 2011, 15-16.

Резюме: Общеизвестно, что фенотипический рост продуктивности животных не может быть критерием племенной эффективности, так как является результатом двух компонентов, один из которых обусловлен генетическими факторами, а другой - изменениями в окружающей среде (кормление, содержание и эксплуатация животных). Критерием эффективности племенной работы в молочном скотоводстве является реализованный генетический прогресс (тренд) за определенный промежуток времени (год). Целью нашей работы является оценка генетических изменений молочной продуктивности в популяции Черно-пестрого скота результаты которой должны быть основой для совершенствования программы селекции с этой породой. Нами была проведена оценка реализованного генетического прогресса в популяции Черно-Пестрого скота, разводимого в Болгарии за оценка реализованного генетического прогресса в активной части популяции за период 1997 по 2006 годы, а также и между смежными 2005-2006 годами. В целом материал охватывал данные контроля молочной продуктивности в первом случае - 14372 первотелок, дочерей 67 быков-производителей. Средняя молочная продуктивность этих коров использовалась для расчета фенотипического прогресса по удою, проценту жира и количеству молочного жира. Для оценки генетического прогресса из общего материала были отобраны данные только по тем быкам-производителям, которые имели не менее 10 дочерей на каждого проверяемого быка. Для оценки эффективности селекции Черно-Пестрого скота был использован модифицированный метод Смита от (Кузнецов, В. М., 1981). Полученные нами результаты показали, что генетический прогресс молочной продуктивности животных за этот же период составил по удою - 26,48 kg молока, и по содержанию жира в молоке - + 0,043%.

60. Petr Stoikov, Virginia Gaidarska, Petr Lutskanov. (2012): “**STUDY ON THE EFFECT OF THE NUMBER OF COWS ON MILK PRODUCTION AND AVERAGE NUMBER OF LACTATIONS IN DAIRY FARMS**”, *НАЦИОНАЛЬНА АКАДЕМИЯ АГРАРНЫХ НАУК УКРАЇНА – ИНСТИТУТ РАЗВЕДЕННЯ І ГЕТЕГИКИ ТВАРИН - РАЗВЕВЕННЯ ГЕНЕТИКА ТВАРИН- НААН, ВЪПУСК 46, КИЕВ, 2012, 163 – 165.*

Abstract: Dairy Cattle Breeding is an extremely important sector for the Bulgarian economy. In recent years there has been a trend towards consolidation of the size of dairy farms as the main factors that led to this are the higher prices of raw cow milk for larger farms, subsidies for quality milk, the import of high productive animals from EU countries, legislation changes, especially these in veterinary requirements that influenced over the consolidation process in Dairy Cattle Breeding. Milk production and duration of the productive period in cows from different breeds have been studied by many authors

The aim of this study is to investigate the influence of the number of cows on milk production and average number of lactations in dairy farms.

The study included 40 dairy farms from different regions from the country. Data for 2975 cows from different dairy breeds and different lactations were investigated. Farm owners were interviewed and the farms were assessed according to analyzed indicators. The interviews were conducted in 2008 and 2009. According to the number of animals in the main herd, farms are divided into 3 groups: Group I - from 10 to 49 cows - this group includes 18 farms; the second group – from 50 to 89 cows - 13 farms and a third group – from 90 to 360 cows, which includes 9 farms. The following production parameters are analyzed: average milk production in farms (kg) and average number of lactations of cows in the farms.

The study is processed by using the statistical product SPSS 9.0 and ANOVA analysis is conducted. From the analysis it was found that the average number of cows in the farms is 74 and the average milk production in the farms is 5658 kg. The average milk production for the first group is 5501 kg, for the second group – 5381kg, and for the third group is 5838 kg. The average number of lactations of cows for the farms in the first group is 6,68, for the second group – 6, 54 lactations, and for the third – 5,16 lactations. It was found a reliable effect of farm group on the variation of the parameter number of lactations. It is established a reliable effect of farm group on the variation of the parameter number of lactations ($F = 6,078$. $P < 0,01$).

61. Tatyana Ivanova, Virginia Gaidarska, Petr Lutskanov. (2012): „**DURATION OF USE AND REPRODUCTIVE CAPABILITIES OF DAUGHTERS OF SOME BULLS FROM HOLSTEIN-FRIESIAN BREED**”, *Национальная Академия Аграрных Наук УКРАЇНА – институт разведения і гетегики тварин - развевения генетика тварин- НААН, выпуск 46, Киев, України, 2012, 226 – 229.*

Abstract: The aim of this study is to determine the duration of use lifetime productivity and reproductive capabilities of daughters of bulls from some genealogical lines of Holstein-Friesian breed used in the farm of the State enterprise of the Agricultural Institute, Shumen.

The object of the study are the daughters from the herd of Holstein-Friesian breed in the Agricultural Institute, Shumen originating from 43 fathers belonging to four lines:

The information for this study covers the period from 1991 to 2001. The fathers used in the studied period belong to four genealogical lines - Elevation, P. F. A. Chiff, Star, Siiling Rodman. Productive lifetime traits (quantity of milk yield, milk butter, milk protein) are measured in kg. The length of productive life (from the data of first calving to the data of culling) and the duration of lifetime use (from the date of birth to the date of culling) are specified in days. Lifetime and productive use have been in the range respectively from 2217,2 to 2294,3 days and from 1341,8 to 1429,6 days. With the shortest period of lifetime use are characterized the daughters from the Elevation and the Star line (6,07 years). It follows from that they will have the shortest period of productive use, and the longest productive use has the daughters from the Siiling Rodman line (6, 28 years) as well as the longest period of productive use. Lifetime milk production was obtained from 3,7 to 3, 9 lactations.

The daughters of the Elevation and Star line are characterized by the shortest periods of lifetime and productive use while the longest periods have the daughters of the Silling Rodman line. Daughters of bulls from the Silling Rodman line have the highest lifetime milk yield-22168, 1 kg while the lowest have the the daughters of bulls from the Elevation line- 20273, 9 kg.

62. Иванова, Т. В. Гайдарска, П. Люцканов. (2012): „ВЛИЯНИЕ ПРИЧИН ВЫБРАКОВКИ КОРОВ НА ПРОДУКТИВНОЕ ДОЛГОЛЕТИЕ У ГОЛШТИНО - ФРИЗСКОЙ ПОРОДЫ”, НАЦИОНАЛЬНА АКАДЕМИЯ АГРАРНЫХ НАУК УКРАИНА – ИНСТИТУТ РАЗВЕДЕНИЯ І ГЕТЕГИКИ ТВАРИН - РАЗВЕВЕНИЯ ГЕНЕТИКА ТВАРИН- НААН, ВЫПУСК 46, КИЕВ, 2012, 230 – 235.

РЕЗЮМЕ: *Вопросу изучения причин снижения продуктивного долголетия у коров в последнее время уделяется большое внимание. Установлено, что основной причиной сокращения срока использования коров являются не отдельные заболевания коров, а несоответствие условий эксплуатации высокопродуктивных животных.*

С учетом выше сказанного нами была поставлена задача провести исследования и изучить влияние причины выбраковки коров Голцино-Фризской породы на продолжительность продуктивного долголетия коров.

Работа проводилась в племенных хозяйствах Шуменского сельскохозяйственного института. Для анализа использовали данные зоотехнического учета с 1973 по 2006 годы. Объектом исследований служили 1152 выбракованные коровы Голцино-Физской породы различных лактаций (первая-десятая). Анализируемые данные с учетом болезней коров сгруппировали по причинам выбраковки коров в восемь групп в зависимости от болезни коров: болезни внутренних органов, болезни ног, бесплодие, болезни вымени, трудные отелы, другие причины (продажа, забой, падеж), возраст, низкая продуктивность (менее 4500 kg). При расчете полученных данных использовали методологию смешанной модели (Harvey, 1990). Проведенный анализ показывает, что причины по которым выбраковывались коровы имели высоко-достоверное влияние на продолжительность продуктивной жизни, т.е. на продуктивное долголетие коров со значениями для критерия F соответственно 23,56 ($P \leq 0,001$), что подтверждается ранее проведенными нами исследования; установлено, что на продолжительность продуктивной жизни коров Голцино-Фризской породы оказали влияние следующие причины выбраковки коров: 39%-реализация, забой и падеж; 21%-яловость, 13%-внутренние болезни; 11%-низкая продуктивность и 7% болезни вымени. Из-за болезней ног, трудных отелов, и физиологического возраста выбраковано по 3%, что свидетельствует о том, что эти причины не оказывают существенного влияния на продолжительность продуктивной жизни коров. Установлено, что репродуктивные проблемы у молодых животных являются наиболее острыми.

63.Т.Иванова, В. Гайдарска, П. Люцканов.(2012):” ОЦЕНКА ГЕНЕТИЧЕСКИХ ПАРАМЕТРОВ ПРОДУКТИВНЫХ И РЕПРОДУКТИВНЫХ ПРИЗНАКОВ КОРОВ ГОЛШТИНО-ФРИЗСКОЙ ПОРОДЫ», НАЦИОНАЛЬНА АКАДЕМИЯ АГРАРНЫХ НАУК УКРАИНА – ИНСТИТУТ РАЗВЕДЕНИЯ І ГЕТЕГИКИ ТВАРИН - РАЗВЕВЕНИЯ ГЕНЕТИКА ТВАРИН- НААН, ВЫПУСК 46, КИЕВ, 2012, 291 – 294.

Резюме: *Оценка результатов племенной работы, прогноз ее эффективности и моделирование селекционных программ проводится с использованием популяционно-генетических параметров. Среди популяционно генетических параметров для теории и практики племенной работы большое значение имеет коэффициент наследуемости (h^2). Молочная продуктивность коров и их продуктивное долголетие обусловлены многими генетическими факторами, одним из которых является коэффициент наследуемости (h^2), селекционных признаков, показатели продуктивного долголетия, возраст первого отела, продолжительность сервис-периода, поскольку воспроизводительная и продуктивная функция коров тесно взаимосвязаны.*

Цел работы-оценка генетических параметров пожизненных продуктивных и репродуктивных признаков у коров Голцино-Фризской породы в Болгарии. В исследованиях использовали данные молочной продуктивности у 246 коров, дочерей 43 Голцино-Фризских отцов-быков, принадлежащих к четырем линиям, содержащихся в хозяйствах Шуменского сельскохозяйственного института. Исследования охватывали 12-летний период (1991 – 2002 гг.). Продолжительность продуктивной жизни коров (дата первого отела – дата выбраковки) и продолжительность пожизненного использования коров (дата рождения – дата выбраковки) изучали по данным племенных карточек.

По каждой корове учитывался удой коров по лактациям, пожизненный удой, молочный жир, количество лактации, продолжительность жизни, в том числе сервис-период и возраст первого отела. Для оценки параметров были использованы смешанные модели Harvey (1990), модель включает в себя случайное влияние отцов.

Установленное в нашем исследовании среднее значение херитабилитета для пожизненных признаков дает нам основание предполагать, что несмотря на трудный и длительный процесс селекции, отбор по этим признакам будет иметь положительное влияние на экономическую эффективность Голцино-Фризского скота, и эти признаки должны быть включены в селекционных программах разных молочных пород.

Высокие фенотипические и генетические коэффициенты корреляции между продолжительностью продуктивной жизни, продолжительностью пожизненного использования коров, пожизненного удоя, пожизненного количество молочного жира и количество лактации, показывают, что селекция любого из этих признаков будет иметь положительное влияние на другие признаки. Между возрастом первого отела и пожизненными признаками имеется небольшая фенотипическая корреляция ($r = 0,015 - 0,190$) и отрицательная генетическая корреляция.

64. В. М. Гайдарска, П.И. Люцканов. (2012): „КОМПЛЕКСНАЯ ОЦЕНКА МОЛОЧНЫХ ФЕРМ С СОВРЕМЕННЫМИ ТЕХНОЛОГИЯМИ”, "НАЦИОНАЛЬНА АКАДЕМИЯ АГРАРНЫХ НАУК УКРАЇНА – ИНСТИТУТ РАЗВЕДЕННЯ І ГЕТЕГІКИ ТВАРИН - РАЗВЕВЕННЯ ГЕНЕТИКА ТВАРИН- НААН, ВІПУСК 46, КИЇВ, 2012, 307 – 309.

Резюме: Увеличение молочной продуктивности коров является необходимым элементом экономически эффективного производства молока. С этой целью в молочных стадах должен проводиться систематический мониторинг динамики селекционных показателей, анализ продуктивности коров молочных ферм в зависимости от их размера, изменения взаимосвязей между селекционируемыми признаками.

Нами была поставлена задача провести оценку молочных ферм с современными технологиями в разных молочных стадах, отличающихся как по численности поголовья коров, так и по уровню продуктивности. В качестве исходного материала использовались база данных коров, которые оценивали по методике Русева (2008), в молочных стадах на 64 молочных фермах расположенных в различных регионах страны с поголовьем 7094 голов коров, разных лактаций.

Контролировали следующие показатели: статус стада, удой коров, % жира и белка в молоке, продолжительность сервис-периода, прирост, воспроизводство и селекция.

Комплексная оценка производится с использованием анкет для фермеров. Анализируемые данные сгруппированы в 4 группы молочных хозяйств; от 11 до 25 коров – 13 хозяйств; от 26 до 50 коров – 16 хозяйств; от 51 – до 100 коров – 18 хозяйств; и от 101 – 1004 коров – 17 хозяйств; Вся информация обрабатывалась статистически с помощью программы SPSS-ANOVA. Статистический анализ показателей молочной продуктивности коров во всех хозяйствах показал увеличение продуктивности животных.

Средний удой молока в исследуемых хозяйствах составил 6461 кг молока с 3.8% молочного жира и 3.2% белка в молоке. Коэффициент корреляции между количеством коров на фермах и средним удоём молока составил +0,367, т.е. наблюдалась положительная корреляция между этими двумя показателями в ползу крупных хозяйств. Высокий удой является основной причиной оказывающей негативное влияние на воспроизводство коров.

С увеличением размера молочных ферм увеличивается важная оценка для таких показателей как: управление-менеджмент, экономика и перспектива развития молочных ферм, что свидетельствует о высокой конкурентоспособности этих молочных хозяйств.

65. Harizanova Ts., Gaidarska V., Ivanova T., Stoikov P. (2012): “CORRELATIONS BETWEEN ALL MILK PRICE , MILK PRODUCTION PER COW, NUMBER OF MILK COWS AND PRICE RECEIVED FOR CORN GRAIN OF THE BASIS OF THE US”. II Міжнародної науково – практичної конференції Зоотехнічна наука: Історія, Проблеми, Перспективи”, Кам’янець-Подільський, України, р. 361 – 365.

Abstract: The aim of this study is to identify the correlations between all milk price, milk production per cow, number of milk cows and price received for corn grain on the basis of the US for the period of 01. 2000 – 05.2011. For the implementation of the present study the rates of change of the price of all milk, price received for corn grain, number of milk cows, produced cow milk and milk production per cow were investigated. And the correlation coefficients between all milk price, milk production per cow, number of milk cows and price received for corn grain was used statistical product SPSS 9.

It was found that the price received for corn grain has increased during the period 01.2000 – 05.2011 (the rate of change in 05. 2011 compared to 01.2000 is 229. 84%). The correlation coefficient between the price received for corn grain and all milk price is + 0.59. High and positive values have the correlation coefficients between the price received for corn grain and: milk production per cow, number of cows and cow milk production (+0.69, +0,56, +0,73).

The conclusions made in the study are:

- The increase of milk production is due mainly to the increase of the production per cow;
- Trends of the all milk price and price received for corn grain are ascending;
- There are cyclic variations in price levels.

66. Стойков П., Гайдарска В., Стойкова - Григорова Р., Харизанова Ц. (2013): “Сравнительный анализ влияния возраста болгарской коровы Симментальской породы и родословной линии на мертворождение”. XVI Международной научно-практической конференции „Аграрная Наука-Сельскохозяйственному Производству Монголии, Сибирского Региона, Казахстана и Болгарии”, част II, 29-30.05.2013, Улан Батор, Монголия, стр. 102-106.

Резюме: Целях данного исследования было определить влияние возраста коров и генеалогические линии на мертворождений у крупного рогатого скота из Болгарского Симментальской породы.

Для проведения исследований нами были использованы базы данных 841 коров, с 3044 разных лактации из опытной станции – г.Видин за периодом 1978 по 2011 гг. Было установлено, что най-меньшее число мертворожденных телят получены от дочерей быков Перу соответственно 0,23% и 3,87%, по сравнению с общим числом отела и мертворожденных.

У взрослых коров сообщалось выше процент мертворожденных с 1,68% (3,81 против 2,13 процента) по сравнению с отелом и 28,18% (64,09 против 35,91%) из мертворожденным.

Было установлено, что возраст коров оказало влияние на увеличение мертворожденных телят; Генеалогическая линия быки которые использовались не оказали положительного влияния на мертворождений.

67. Gaidarska V., Harizanova Ts., Ivanova T. (2013): RESEARCH AND EVALUATION OF DAIRY FARMS WITH DIFFERENT TECHNOLOGIES OF REARING. III Міжнародної науково – практичної конференції „Зоотехнічна наука: Історія, Проблеми, Перспективи”, 22-24 Маю, 2013, Кам’янець-Подільський, України, р. 292-296.

Abstract: The aim of the study is to make a comparative evaluation of Dairy farms with obsolete and modern technologies with different herd size and to evaluate indicators connected with production efficiency. Dairy farms - 17 with a total number of 5649 cows.

From different areas of the country were studied. Comprehensive assessment is made by personal interviewing of farmers. The information was evaluated according to the methodology of Rusev, (2003). The capacity of dairy farms included in the survey ranged from 26 to 1740 cows, which are distributed as follows: 4 farms from 26 to 50 cows, 7 farms from 51 to 250 dairy cows, 3 farms with a capacity from 251 to 500 cows and 3 farms with more than 500 cows. The last group includes three farms, which can be categorized as high tech. From these farms have a capacity of 980, 1136 and 1749 cows, average milk yield has reached 7 000 kg. All technological operations in these farms are automated and mechanized.

The data for the 17 farms are classified and analyzed according to the following indicators: status of the herd, milk production, reproductive traits – service period, health, status, feeding, milking, cleaning, and usage of manure, hygiene, economics, management, evaluation of the farm. Analysis of variance (ANOVA) was performed with SPSS 9. The results showed that the cows in the studied farms have achieved average milk yield of 6682 kg with the range from 3100 to 8200 kg. Service period as a major indicator of the fertility of the animals had average value of 107 days with a range from 82 to 147 days: in dairy farms with a herd size from 26 to 50 cows, service period was 98 days, respectively. In farms with herd size from 51 to 250 cows, service period was 105 days; in dairy farms with a capacity from 251 to 500 cows, service period was 131 days and in farms with more than 500 cows, service period was 108 days.

The achieved average milk yield of 6682 kg is a result of genetic potential for high milk production, the adoption of modern systems of feeding, milking and excellent management. The capacity of dairy farms had no effect on milk production of cows. The highest average milk yield has farms with herd size up to 50 cows, followed by farms with herd size more than 500 cows.

The duration of the service period in the studied farms ranged from 82 to 147 days; the shortest service period is achieved in small and medium-sized farms where cows during the summer are raised pasture stall. ANOVA analysis showed that farms in the farms from 4-th group showed reliably better results according to the indicator “Economics” than the farms from the first and third group of farms; farms from fourth group showed reliably better results according to the indicator “Management” compared to the farms from third group.

68. Ivanova T., V. Gaidarska, (2013):” RESEARCH ON THE VARIANCE FOR LIFETIME PRODUCTION TRAITS IN HOLSTEIN-FRIESIAN COWS”, Зоотехнічна наука: історія, проблеми, перспективи, Второй Международной Научно-практической Конференции „Аграрная, стр. 335-338-Україна.

Abstract: The aim of the study was to establish the sources of specific variance for lifetime production traits in Holstein-Friesian cows in Bulgaria. The experiment with 1566 Holstein-Friesian cows of 87 sires originated from live genealogical lines was carried out in the Agricultural Institute farm.

The set of data of the present study comprised the period from 1991 to 2002. Number of the lactations from first to eighth was fixed and the next lactations were excluded from the analysis because of their small number. The lifetime production traits (milk production, milk butter, milk protein) were measured in kg. The data analysis was done by the methodology of mixed models (Harvey, 1990), and was based on the statistical model.

The differences between the levels of the studied factors are established on the base of the distribution ratio, measured by Student (Hayter, A. 1984). The analysis of the variance of the lifetime production traits showed high significant influence of the studied factors ($P \leq 0.001$). Significant values of the regression effect of the age at first calving with the lifetime milk production in $P \leq 0.05$ and with the lifetime milk protein in $P \leq 0.01$ were also established.

There were not significant values of the regression effect of the age at first calving with the lifetime milk butter.

There is lowest value of LS – estimations for lifetime milk production, lifetime milk butter and lifetime milk protein ant first lactation, respectively – 9163,11, - 329,50 and 219,71 and in every following lactation there is an increase of the values of LS – estimations. Animals in seventh lactation are characterized with highest value for all the three studied traits. The differences between the separate lactations are with high significance except for those between the last four levels which is a result from smaller mothers' number.

The obtained regression effects are positive by value – regression coefficients between the age at first calving with the lifetime milk production (6,03), the milk butter (0,17) and the milk protein (0,23). A significant influence of the regration effect of the age at first calving with the lifetime milk production ($P \leq 0.05$) and milk protein ($P \leq 0.001$) was established.

69. Гайдарска В., Люцканов П., Харизанова Ц. (2014):” Комплексная оценка молочных ферм. IV Міжнародної Науково – Практичної Конференції „Зоотехнічна Наука: Історія, Проблеми, Перспективи”, 21-23.04, України, Кам'янець-Подільський, р.284-286.

Резюме: Целью нашей работы явилась комплексная оценка молочных хозяйств со современными технологиями для стад разной величины и оценка параметров, влияющих на эффективность производства молока. Для проведения исследований нами были использованы базы данных по коровам на 24 молочных фермах, с поголовием 2898 голов, разных лактаций, расположенных в различных регионах страны- Видин, Шумен, Плевен, Силистра, оцененных по методике Русева (2008). Исследования проведены с 2012 по 2013 гг., с использованием данных племенного и зоотехнического учета. Фермы, где проводились исследования были подобраны по принципу случайной выборки, по методике для комплексной оценки (десятибальная система). Контролировали следующие показатели: статус стада, удой коров, % жира и белка в молоке, продолжительность сервис-периода, прирост продукции, воспроизводство, здоровье, кормление, кратность доения, гигиена, менеджмент, экономика. Анализируемые данные сгруппировали в 4 группы: до 50 коров-6 хозяйств; от 51-150 коров – 13 хозяйств; от 151 до 250 коров – 4 хозяйства и более 250 коров-1 хозяйство. Исследования показывают, что на высокотехнологичных фермах, где выращиваются животные с высоким генетическим потенциалом и применяются современные технологии – кормление, доения, гигиены, содержания животных получают высокие удои в сравнении с небольшими хозяйствами. Эта тенденция характерна для современных высокотехнологичных ферм во всем мире. Селекция в маленьких фермах, в отличие от больших молочных ферм, не отвечает современным требованиям. С увеличением размера молочных ферм, бальная оценка увеличивается по менеджменту и экономике, что свидетельствует о высокой конкурентноспособности этих молочных ферм.

70. Вергиня Гайдарска, Мая Игнатова, Цветана Харизанова, Петр Люцканов. (2016): «Комплексная оценка Черно-Пестрой коров Болгарии» Научно –практический институт биотехнологий в зоотехнии и ветеринарной медицины, Maximovca, **Moldova** - 29-01, 09.-10. 2016, Simpozionulu științific cu participare internațională „Zootehnycal science – an important factor for the European type of the agriculture” 29 september – 01.October 2016, Maximovca, **Moldova**. p. 390-396.

Abstract: The aim of the study is to make a complex assessment of dairy farms with different capacity and modern technologies and to evaluate indicators connected with production efficiency.

It was conducted a complex assessment of herds of 31 dairy farms with different size, with total number 8230 cows from different areas of the country, from Black-and- White cows in Bulgaria – studied.

It was found that, the highest average milk yield from 7290 kg., has farms with herd size 250 cows and more.

71. Гайдарска Вергини, Мая Игнатова. (2016): “МОЛОЧНОЕ СКОТОВОДСТВО В БОЛГАРИИ ПОСЛЕ ВСТУПЛЕНИЯ В ЕВРОПЕЙСКИЙ СОЮЗ”, Научно – Практическият Институт Биотехнологий в Зоотехнии и Ветеринарної Медицини, Maximovca, Moldova - 29-01, 09.-10. 2016, Simpozionulu stiințific cu participare internațională „Zootechnical science – an important factor for the European type of the agriculture” 29 september – 01. October 2016, Maximovca, Moldova. p. 397-405.

Abstract: Milk production is the most important agricultural activity all the world, including Bulgarian dairy cattle as always plays an important role in livestock production of Bulgaria. The goals of the present investigation was to study and estimate dairy farms, dairy cows, dairy milk production and the analyze the terms of reference and tendency development of Bulgarian Dairy Cattle for the period 2007 – 2015 years, after joining the European Union. Breeding, especially the dairy cows, raised primarily to produce milk yield for human consumption. Dairy Cattle Breeding in Bulgaria was in a deep depression during the last 9 years.

Modern milk production in Bulgaria will undergo a dramatical change both in terms of the dairy farmer and the breeding companies.

The Bulgarian Dairy Industry is based on stable competition advantages, therefore the improvement of the Dairy Cattle Industry and gaining a market share are possible future prospects.

72. Гайдарска Вергиния, Мирчо Кръстев, Славка Симеонова. (1998): « Проучване ефективността от селекцията в стада на Черношарената популация», Сп. ”Животновъдни науки”. бр.1-2 ,стр. 151-155. Journal of Mountain on the Balkans, vol.1, 2, 1998, 151 -155.

Резюме: Постоянният контрол за генетичните изменения (генетичния тренд) при млечните породи говеда се явява залог за ефективна селекционна (развъдна) дейност-предпоставка за разработване на по-точни методи за оценка генотипа на животните и актуализиране на съвременните селекционни програми при млечните породи говеда. Проведено е изследване за оценка на фактически реализирания генетичен прогрес (тренд) в стада на Черношарената популация крави за период от 10 години (1986 – 1995 г), включващи 10 региона на страната. Оценката на генетичните изменения е установена по модифицирания от Кузнецов В.М., (1981)г., метод на Smith (1962), който се основава на постоянството на генотипа на производителя във времето, за оценка на генетичните изменения в динамика.

Резултатите от изследването показва, че реализирания среден годишен генетичен прогрес на крава е съответно 19.65 кг млечност, 0.0043% мастни вещества и 0,64 кг млечно масло. Установяването на фенотипическите, генетически и паратипически изменения в динамика , в популация от крави показва, че развъдно - подобрителната работа, която се извършва при Черношарената порода, съдейства за постоянното увеличаване темповете на генетическото усъвършенстване на популацията. Ниската интензивност на отбора на биците-производители, действали в различни райони на страната е една основните причини за невисокия реализиран генетичен прогрес. Чрез фактически реализирания генетичен прогрес може правилно и точно да се отчете икономическата ефективност от внедряването на отделните селекционни мероприятия и от селекционните програми като цяло.

73. **Вергиния Гайдарска, В., Йовка Фенерова, Иван Янчев. (2002):** „Възраст на първо отелване, млечна продуктивност и дълголетие при крави от Черно-Шарената порода». Научна Конференция с Международно участие «Стара- Загора 2002» том 2, 6–7 Joup, 2002, *Agrarian Sciences. Растениевъдство и животновъдство, 2002, 341 – 345).*

Резюме: Целта на настоящето изследване е да се проучи влиянието на възрастта на първо отелване върху млечната продуктивност и дълголетие на крави от Черно-Шарената порода. Използвани бяха данните за млечната продуктивност и продуктивното дълголетие на 921 крави с 2877 (нормални 240 - 305) дневни лактации, дъщери на 27 Холщайн-Фризийски бици.

Проучването обхваща периода от 1996-2000 включително. Данните за проучваните крави включват 17 стада от различни региони на страната: София, Русе и Добрич, разпределени съответно в пет групи, според възрастта на първо отелване на кравите, изчислени в дни: I – ва група – до 700 дни; II- ра група от 701-790 дни; III- та група от 791-880; IV-та група от 881-940 и V-та група от 941 и повече дни.

- Беие установено, че с най-висока млечна продуктивност и дълголетие се характеризират кравите от Черно-Шарената порода, отелили се на възраст от 791 – 880 дни (26-29 месеца).
- Оптималната възраст за първо осеменяване (505 – 595) дни и първо отелване /791-880/ дни (26-29 месеца), при крави от Черно-Шарената порода е от съществено значение за млечната продуктивност и дълголетие на кравите. При съответна жива маса юниците могат да се осеменят 30-60 дни по-рано;
- Крави, отелили се в ранна възраст - до 700 дни се характеризират с ниска млечност и продуктивно дълголетие за първите две лактации, а отелилите се в по-късни срокове (от 941 и повече дни) за три и повече лактации.

74. **Verginia Gaidarska, Yovka Popova, Marieta Tateva. (2003):** “STUDY OF LONG PRODUCTIVE LIFE OF COWS FROM BLACK-AND-WHITE POPULATION” *Scientific conference with international participation*, Stara Zagora 2003”. Том.1, June 5-6, 2003.p. 265 – 268.

Abstract: In the study were included 879 cows of Black-and White breed from different genotypes with commont 2567 lactations, daughters 16 Holstein-Friesian Bulls. Data for the milk production of Black-and White cows at first to five lactation from 4 herds: one (1) herd from Sofia-region-Institute of Animal Science, Kostinbrod; and three herds from Russe region were used the investigation. Data were analyzed according to statistical methods. It was found that:

- Genotypes 530 cows having 50% Holstein-Friesian (HF) blood and Red cows crossbreed shoed the longest farm used (4,65) lactations and the highest life productivity.
- Genotypes 540 cows (Black-and White and HF) crossbreed shoed high life milk yield and longevity of farm used – (4,30) lactations.

75. Marieta Tateva, Verginia Gaidarska, Geko Gekov, Teodora Angelova. (2003): „КОРЕЛАЦИЯ МЕЖДУ ПЛОДОВИТОСТТА НА БИЦИТЕ И ТЕЛЕСНИТЕ ИМ РАЗМЕРИ” Research center of Cattle and Sheep Husbandry – NIGO - Stara Zagora, 2003”, Scientific conference with international participation, 2003.p 283- 286.

Резюме: Целта на настоящето проучване е да се установи има ли корелация между типа конституция на бика и по-точно количеството на мускулната му маса и неговата плодовитост. За установяване на тази зависимост са използвани данните на 58 бика, предоставени от селекционните центрове в Стара Загора и Сливен, както и собствени данни: биците са от различни породи - за мляко и за месо.

За установяване на тази зависимост бяха използвани данните за 58 бика, от селекционните центрове в Стара Загора и Сливен. Биците бяха от различни породи, както за мляко, така и за месо. За установяване на проучваните корелации са проследени и анализирани 10 измервания на тялото на биците от общо направените 18 измервания, които дават точна информация за замускуляването на биците на най-важните телесни части и преди всичко на крупата и бутото. Възрастта на биците варираше в доста широки граници, като средната беше 41 месеца. За преценка на плодовитостта бяха използвани данни от същата година, взети от племенните книги в станциите по изкуствено осеменяване. Акцентираше се на броя на скачките при изследваните бици, да е сравнително еднакъв. Животните бяха разделени на две групи: първа група - бици с недобро замускуляване и втора група - бици с много добро замускуляване. Разликите в измерванията и на двете групи бяха статистически доказани. За преценка на плодовитостта на биците са проследени следните признаци: среден обем на еякулата; брой на еякулатите - общо; брой на бракуваните дози - общо; плодовитост след първото осеменяване.

Резултатите от проучването показаха, че използването на бици с добре развита мускулатура (с месно или млечно направление), има непосредствена връзка с тяхната плодовитост: получените резултати потвърждават, че дори и много добре развитата мускулатура на биците, не може да бъде пречка за тяхната голяма плодовитост. Отборът по тези два показателя (замускуляване и плодовитост) може да се провежда поотделно (независимо един от друг).

76. M. Tateva, V Dimova, V. Gaidarska, (2004): “ INFLUENCE OF SOME FACTORS ON THE QUANTITATIVE AND QUALITATIVE TRAITS OF THE BULL SEMEN FROM WHITE AND BLACK RACE” Research center of Cattle and Sheep Husbandry – NIGO - Stara Zagora, 2004”, Scientific Conference with International Participation, Tom 3, 2004.p 67- 70.

Abstracts: Influence of some factors on the qualitative and quantitative traits of fresh and frozen semen were evaluated for the Black – and - White race.

Having in mind the importance of the bulls for the intensification of the breeding process, we made a large programme to evaluate the all traits related to the reproduction, the fresh semen - for all their life and for one day too-two ejaculations per day. All these researches were made to optimise the semen productivity.

- The results of 15 bulls were taken and we calculated them statistically, but took in mind only for 10.
- The long life semen production, the influence of season and other factors were evaluated.
- What was the influence on each ejaculate by the high temperatures in summer and the low temperatures in winter was studied too.

77. V Gaidarska, Y. Popova, M. Tateva, Sl. Simeonova, V. Dimova. 2004): "INFLUENCE OF AGE AT FIRST CALVING ON MILK PRODUCTIVITY WITH DIFFERENT PARTICIPATION OF HOLSTEIN-FRIESIAN BULLS", Research center of Cattle and Sheep Husbandry – NIGO - Stara Zagora, 2003", Scientific conference with international participation, 2003.p131-135.

Abstract: A breeding goal is set of characteristics of the cow that selection is intended to improve. It is therefore that farmers seek to select cows with higher yields of milk of desirable quality. Selection has been very successful with yield per cow increasing dramatically over the last 20 years as a result of both selection and improved management. Previous work has shown that the productive and reproductive traits would be more effective, which investigate for exactly represented herds. The objectives of this study were to establishment the influence of productive and reproductive indices milk production (milk yield, fat percent and butter fat), and age of first calving period with different participation of Holstein-Friesian bulls. The data were from records of 297 cows-crossed of Black-and White with different participation of Holstein-Friesian bulls, and 37 pure-bred Black-and-White cows with four full lactation. Data were analyzed by the least – squares method, using a linear statistical model. It was found that genotypes at cows from Black – and White bred with 5/8 from participation of Holstein-Friesian bulls is a more production cow at age of first calving to 29 and more 31 month.

78. Н. Русев Н., В. Гайдарска , Ц. Харизанова (2008). „Проучване и комплексна оценка на говедовъдни ферми с различен капацитет. Сборник доклади от научната конференция” „Традиции и съвременност във ветеринарната медицина”, Лесотехнически университет, София, стр. 55 – 62.

Резюме: В настоящото изследване се акцентира върху проучването и комплексна оценка на млечни говедовъдни ферми в България. Целта на проучването е да се направи комплексна оценка на 46 говедовъдни ферми с различен капацитет. Комплексното им проучване, включващо най-важните показатели, влияещи върху ефективността на млекопроизводството, дава ценна информация за вземане на управленчески решения за подобряване на конкурентоспособността на млечните стопанства. Целесъобразността на проучването се предопределя и от пряката връзка на изследваните показатели с икономическата ефективност на стопанските единици.

За реализирането на поставената цел беше събрана анкетна информация от говедовъдни млечни ферми, след което данните бяха обработени по методиката на Русев (2003). Изследваните 46 ферми включват 4188 крави на различни лактации (I, II, III, IV и повече). Според размера на стадата, фермите са разпределени както следва: 8 ферми с капацитет от 5 до 10 крави, 8 ферми с капацитет 11 – 25 крави; 13 ферми с капацитет от 26 до 50 крави; 17 ферми с капацитет от 51 до 551 крави. От анализа се установи, че показателите варират в зависимост от размера на фермата и средната млечност, което е следствие от влиянието на комплексни фактори. Резултатите от изследваните млечни ферми зависят както от използваната порода животни, равнището на хранене, системите на отглеждане, вида фуражи, механизацията на технологичните процеси и др., така и от качеството на управленските решения. Липсата на достатъчно ликвидни финансови средства и високото ниво на задлъжнялост в преобладаващата част от млечните ферми, предопределят и незадоволителните резултати по отношение производството на качествено краве мляко.

79. V.Gaidarska, N.Russev, Y Popova, Ts. Harizanova, T. Ivanova (2009). „INVESTIGATION OF THE LEVEL OF MILK PRODUCTION UPON REPRODUCTIVE CAPACITY OF BLACK-AND-WHITE COWS AND COMPLEX ASSESSMENT”. “Economics and Society Development on Base of Knowledge” Volume I, Agricultural Science. Animal Studies & Veterinary Medicine, p. 61-65.

Abstract: The objective of the present investigation was to determine the influence of the milk herd size over the milk productivity and reproduction of milk cows. For the maintenance of the investigation an information was gathered (according to the methodology of Rusev, 2003), by interviewing farmers in accordance with a special inquiry for complex estimation of milk farms, 52 farms in the country was investigated with total number of 4624 cows, including 9 farms with capacity from 5 to 10 cows, 11 farms with capacity from 11 to 25 cows, 15 farms with capacity from 26 to 50 cows and 24 farms with capacity from 51 to 551 cows. The controlling indicators: milk productivity, reproduction traits (open days), protein content in the milk and other were analyzed statistically with the help of program product SPSS 9,0.

The investigation was a part from a major scientific project for evaluation of the effectiveness of milk cattle breeding farms. In the course of the study was determined that the highest average milk productivity is realized in larger farms.

80. Стойков, П., В.Гайдарска, Сл.Славова, Цв. Харизанова. (2009): “Изследване продължителността на използване и пожизнената продуктивност на дъщерите на бици от Българската Сименталска порода”. Научна конференция – Лесотехнически университет. Сборник доклади. „Традиции и съвременност във ветеринарната медицина 2009”. София, стр. 88-95.

Резюме: Целта на настоящето изследване е да се проучи продължителността на използване, пожизнената продуктивност и възпроизводителната способност на дъщерите на четири бика, използвани в стадото крави от Българската Сименталска порода в Комплексна Опитна Станция – гр. Видин. Проучването е извършено с 519 крави - дъщери на четирите бика от Сименталската порода. Изследвани бяха 20 признака, характеризиращи млечната продуктивност и възпроизводителната способност за период от 20 години. В изследването са включени всички крави, завършили най-малко 1-ва лактация, с продължителност на лактацията от 240 до 305 дни. В проучването са включени бици с най-малко 20 броя крави - лактирала дъщери. Кравите са отглеждани оборно-вързано, при двукратно доене с централен млекопровод и традиционно хранене. Данните за проучваните признаци са взети от зоотехническите книги, водени от техниците и научните сътрудници в станцията в гр. Видин. Резултатите от изследването за млечната продуктивност на кравите по лактации показват, че млечността е най-висока при дъщерите на бик Ами – 3894 kg, постигната на III лактация, следвани от тези на бик Примус с реализирана 3625 kg млечност на III лактация. Дъщерите на биците Диско и Дарино са реализирали по-ниска млечност, съответно от 3033 kg и 3006 kg на V-та лактация.

Резултатите за пожизнената млечна продуктивност показват, че от 46-те дъщери на бик Ами, са реализирали най-висока пожизнена млечност от 14180 kg, която е по-висока 580 kg (4, 26%); и с 1260 kg (9,75%) с 2680 kg (23, 30%) в сравнение с дъщерите на биците Дарино, диско и Примус. Установените разлики за млечната продуктивност между дъщерите на биците Ами и Дарино – 888 kg и биците Ами и Диско – 861 kg са високостатистически значими ($P < 0.001$). Признаците, характеризиращи възпроизводителната способност, са най-високи при биците Дарино и Диско, от които са получени и най-голям среден брой пожизнени телета, съответно 5,83 и 5,42 броя. С най-дълъг период на стопанско използване са кравите, дъщери на биците Диско и Дарино, отелили се за пръв път на 946 и 1009 дни, съответно 1828 и 1942 дни,

81. Verginia Gaidarska, Tsvetana Harizanova, Tatyana Ivanova, Nikolai Rusev, Petar Stoikov.(2009): “ INVESTIGATION OF COMPETITIVENESS OF DAIRY FARMS WITH DIFFERENT CAPACITY” „Традиции и съвременност във ветеринарната медицина”, Лесотехнически университет, София, стр. 96-101.

Summary: The objective of the present investigation was to assess the competitiveness of Dairy Farming with different capacity in Bulgaria according to the preliminary methods.

The study comprised data from 50 farms with different capacity, includes cows from different breeds and lactations and estimates the relationship between milk production and reproductive traits.

The estimation of milk productivity, reproductive traits, open days, health and hygiene, feeding, management, and economics of the farms was performed on the basis of the statistical analysis.

The average value of the milk production of cows from the investigated farms varies from 3200 kg to 7800 kg.

82. Харизанова Ц., Гайдарска В., Стойков П., Иванова Т. (2011): “ Прогнозиране на количеството произведено краве мляко през 2011 година”. Сборник доклади от научната конференция „Традиции и съвременност във ветеринарната медицина”, Лесотехнически университет, София, стр. 152-161.

Резюме: Целта на изследването е да се прогнозира количеството произведено краве мляко в България през 2011 година. За постигане на поставената цел е построен линеен регресионен модел с доверително равнище от 95%. Параметрите са оценени с използване на обикновения метод на най-малките квадрати (Pindyck et al.1991). Източниците на информация, въз основа на които е съставен иконометричния модел, са въз основа на данни, взети от МЗХ за периода 1995 – 2010 година. Оценката на параметрите и тестването на хипотезите е проведено чрез програмните продукти Eviews 3.1. и Microfit 4.1. Независимите променливи, включени в модела са логаритмичната стойност на количеството произведено месо от едър рогат добитък през година $t-2$ и логаритмичната стойност на количеството произведено краве мляко през предходната година ($t-1$). Проведени са редица диагностични тестове за изпитване пригодността на модела. От проведеното изследване се установи, че:

Количеството произведено мляко през преходната година и количеството произведено месо от ЕРД преди две години влияят върху размера на произведеното краве мляко през текущата година; Прогнозното количество произведено краве мляко за 2011 г. е 1 160 661 t с горната граница на вариране от 1 215 118 t и долна граница от 1 108 644 t.

83. Ts. Harizanova, V. Gaidarska, T. Ivanova. (2012): „POSSIBILITY TO EVALUATE THE STRUCTURE OF INVESTMENTS IN DAIRY CATTLE BREEDING”. Journal of Mountain Agriculture on the Balkans, vol. 15(1), p. 102 – 109.

Summary: The amount of investment in dairy cattle breeding directly impacts over the sector as a whole, return on investments, product quality, working conditions and incomes of employees.

The aim of this study is to analyze the structure of investments and cost of cow milk in the studied farms. They were analyzed 3 farms in different regions in Bulgaria with a total of 460 cows.

Investments in productive animals occupy the smallest percentage of the amount of investment expenses of the analyzed farms and the largest is the share of investments in land. The lowest are the cost of cow milk in the farms that include earlier is the share investments in land

The funds invested in animals from the main herd (cost of an animal from the main herd) would redeem within 1 lactation through produced milk with an average stay of 5 lactations per cow in the main herd.

84. В Гайдарска, Д. Данев. (2002): "МЕТОДОЛОГИЯ ЗА РАЗРАБОТКА НА БОРСОВИ КОНТРАКТИ ЗА ТЪРГОВИЯ С ЖИВИ ЖИВОТНИ", ДКСБТ, София, Издателство „Стандартизация – Принт“ ISSN, ЕООД, с. 35, София, 2002 г

Резюме:Разработени са важни, актуални проблеми свързани с утвърждаването на пазарните отношения у нас. Стоковите борси са едни от основните елементи на пазарните механизми за установяване на равновесни пазарни цени в условията на свободна конкурентна икономика. Развитието на борсовата търговия изисква разработването на борсови контракти (договори) за търгуваните стоки.

Разработена и предложена методика - методология за борсови контракти при борсова търговия с живи животни – свине и ДРД (овце и кози): разработени са: модели на борсови договори (контракти) - основата на борсовия механизъм на фючърсната търговия в страната; модели за изграждане на типова борсова спецификация.

Направен е подбор на качествените характеристики: данни за произхода на животните и маркировката им; подбор на нормативно-технологическите изисквания, законодателни и подзаконовни актове, международни и национални стандарти, борсови норми за борсови сделки