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T166 Milk and plasma iodine in Isfahan Holstein dairy cows. A. Nikkhah*¹ and G. Ghorbani², ¹University of Zanjan, Zanjan, Iran, ²Isfahan University of Technology, Isfahan, Iran.

Iodine (I) is an essential element for efficient dairy cow metabolism. Iodine status is however not well known on farms. The objective was to measure milk and plasma I concentrations in a selected group of commercial dairy herds in central Iranian province of Isfahan. During summer of 1999 and winter of 2000, 11 dairy farms were randomly chosen and a minimum of 10 cows were sampled from each farm. Tail veins blood and milk samples from a total of 135 lactating Holstein cows in summer and 162 cows in winter were obtained. Totally, 367 blood samples and 297 milk samples were collected. The dairy herds had comparable nutritional (e.g., feed and diet types), reproductive (e.g., artificial insemination), and vaccination programs. Milk was sampled after washing and cleaning teat tips in the milking parlor. Management data including feed ingredients, and average milk properties were recorded. Total plasma and milk I concentrations were assayed using the Sandell-Kolthoff reaction. Data were analyzed as mixed models with acquired fixed effects of season and herd. Correlations among Milk and plasma I with milk production were determined. Iodine in plasma ranged from 9.9 to 46.2 µg/L in winter vs. 17.9–56.2 µg/L in summer. The plasma I in all herds in summer ($P < 0.01$) and in all except one herd in winter ($P < 0.05$) was lower than the minimum critical range in dairy cows (i.e., 50–100 µg/L). Total plasma I was lower in winter than in summer (27.1 ± 12.3 vs. 42.4 ± 16.6 µg/L). Milk I concentrations varied considerably among cows (CV = 14–62%). Across seasons, a negative correlation was found between milk fat % and milk yield ($r = -0.40$, $P < 0.01$), as was a positive correlation between milk and plasma I ($r = 0.22$, $P < 0.01$). In winter but not in summer, milk I concentrations positively correlated with milk fat % ($r = 0.31$, $P < 0.01$). Results indicate prevalent hypo-iodinemia in selected Isfahan dairy herds, suggesting inadequate I supply via feeds and supplements to maintain blood I within normal ranges. It is recommended to provide sufficient edible or non-edible supplemental I to lactating cows in Isfahan.

Key words: iodine, milk, plasma

T167 The effect of stocking rate and calving date on reproductive performance, body state, metabolic, health and welfare parameters of Holstein-Friesian dairy cows. B. McCarthy*^{1,2}, K. M. Pierce², L. Delaby³, A. Brennan¹, and B. Horan¹, ¹Animal and Grassland Research and Innovation Centre, Teagasc Moorepark, Fermoy, Co. Cork, Ireland, ²School of Agriculture, Food Science and Veterinary Medicine, University College Dublin, Belfield, Dublin, Ireland, ³INRA, AgroCampus Ouest, UMR 1080, Production du Lait, Saint-Gilles, France.

The objective of this study was to quantify the effect of stocking rate (SR) and calving date (CD) on the reproductive performance, body condition (BCS) (or body state), metabolic and health and welfare of high EBI Holstein-Friesian (HF) dairy cows within systems designed to represent 3 alternative whole farm SRs in a post EU milk quota spring calving pasture-based production system. Two groups of HF dairy cows with differing mean CD were established from within the existing research herd at Moorepark (Teagasc, Ireland). Animals were assigned either to an early calving (EC; mean CD: 12th of February) treatment or a late calving (LC; mean CD: 25th of February) treatment. Animals within each CD treatment were randomly allocated to one of

3 SR (SR) treatments, Low (2.51 cows/ha), Medium (2.92 cows/ha) and High (3.28 cows/ha). A total of 138 and 137 spring-calving dairy cows, comprised of 2 strains of HF (North American HF and New Zealand HF genotypes), were used during 2009 and 2010, respectively. The effects of CD, SR treatment, genotype and their interactions on reproductive performance, body weight (BW), BCS and blood metabolite, hormone and immune profile concentrations and health status were analyzed. Stocking rate and CD had no effect on reproductive performance ($P < 0.05$) except for embryo mortality, with the low SR having greater embryo mortality (9.8%) compared with the medium or high SR (4.4 and 2.2%, respectively). Stocking rate and CD had no effect on immunological profiles or health status. Earlier calving and increased SR resulted in reduced BW, BCS and metabolic status in early lactation. The results show that earlier calving and increased SR can be achieved without adverse effect on overall reproductive performance. The existence of a SR by genotype interaction for several reproductive variables suggests that the smaller New Zealand genotype is better adapted to increased SR systems.

Key words: dairy cow, stocking rate, reproduction

T168 Evolution of raw bovine milk quality: the Hungarian experience (1984-2009). G. Császár¹, A. Unger¹, and L. Varga*², ¹Hungarian Dairy Research Institute, Inc., Mosonmagyaróvár, Hungary, ²Department of Dairy Science, Institute of Food Science, Faculty of Agricultural and Food Sciences, University of West Hungary, Mosonmagyaróvár, Hungary.

First class raw milk is an essential prerequisite for commercial production of high quality dairy foods. The major microbiological, hygienic and physicochemical properties of raw bovine milk produced in Hungary are graded on a regular basis, i.e., 3 times a month or once every 10 d, by the Central Laboratory of the Hungarian Dairy Research Institute. Having been in place for a quarter of a century now, this system has been updated and upgraded several times over the years. The primary purpose of the present study was to give an overview of the history and development of Hungarian raw milk grading and show how this ever-improving system has contributed to the evolution of milk quality in the country. A large pool of data has been accumulated and processed. The results showed that mean total plate counts gradually decreased from 849,000 cfu/ml in 1984 to 36,000 cfu/ml in 2009. As for somatic cell counts, a mean value of 500,000 cells/ml was observed in 1984, whereas only 280,000 cell/ml were measured in 2009. The percentage of samples containing detectable levels of inhibitory substances was as high as 3.7% back in 1984 (and 4.7% in 1985), which has decreased to 0.1% by 2009. The mean concentration of extraneous water in Hungarian raw bovine milk was found to be 0.52% 26 years ago, as opposed to 0.04% in 2009. In conclusion, there has been an enormous improvement in raw milk quality with respect to all the parameters tested. Since 2003 more than 97% of the raw milk produced in Hungary has met the legal requirements in terms of overall quality. However, it should also be noted that somatic cell counts and the percentage of samples positive for residues of inhibitory substances need to be decreased further in the coming years.

Key words: cow's milk, raw milk quality, grading

T169 Bulk tank somatic cells and its relationship to milk production, milk composition, and revenue in dairy farms located in

central Thailand. D. Jatawa¹, S. Koonawootrittriron¹, M. A. Elzo^{*2}, and T. Suwanasopee¹, ¹*Kasetsart University, Bangkok, Thailand*, ²*University of Florida, Gainesville*.

Quality and quantity of milk are important for price determination and revenue of dairy farmers. Bulk tank somatic cell count (BSC) is used in Thailand as an indicator of milk quality. The objectives of this study were to monitor BSC in Central Thailand and estimate the association between BSC and monthly milk yield per cow (MYC), fat % (FAT), protein % (PRO), lactose % (LAC), solids not fat % (SNF) total solids % (TS), and monthly revenue per cow (MRC). The data set included monthly milk production and composition data collected from 2004 to 2010 (28,580 records) in 811 farms located in Central Thailand (Muaklek, Wang Muang, Phattana Nikhom, and Pak Chong). Seasons were winter (November to February), summer (March to June), and rainy (July to October). Farm sizes were classified by number of milking cows into small (<10 cows), medium (10 to 19 cows), and large (>19 cows). The linear model contained year-season subclasses, farm size-farm location subclasses, and regression BSC as fixed effects, and residual as a random effect. The average BSC in this population was 681,430 ± 641,000 cells/ml. Milk produced in most farms (63%) had BSC values higher than 500,000 cells/ml. The BSC tended to increase over time (11,668 cells/ml/year-season; R² = 0.74). The BSC was linearly associated with milk production, composition, and revenue. Larger BSC were associated with lower MYC (-1.39 ± 0.12 kg/10⁵ cells/ml; P < 0.0001), LAC (-0.0074 ± 0.0002%/10⁵ cells/ml; P < 0.0001), SNF (-0.0022 ± 0.0002%/10⁵ cells/ml; P < 0.0001), and MRC (-17.51 ± 1.84 Thai baht/10⁵ cells/ml; P < 0.0001), but with higher FAT (0.0066 ± 0.0004%/10⁵ cells/ml; P < 0.0001), PRO (0.0055 ± 0.0002%/10⁵ cells/ml; P < 0.0001), and TS (0.0054 ± 0.0005%/10⁵ cells/ml; P < 0.0001). These results indicated the need for farmers to implement management practices to reduce BSC to increase milk yield and revenue in central Thailand.

Key words: dairy, somatic cells, tropical

T170 Factors affecting carcass weight, dressing percent, and marbling score of crossbred beef cattle in tropical Thailand. S. Koonawootrittriron¹, M. A. Elzo^{*2}, C. Kankaew¹, and M. Osothongs³, ¹*Kasetsart University, Bangkok, Thailand*, ²*University of Florida, Gainesville*, ³*Pon Yang Kham Livestock Breeding Cooperative NSC Ltd., Sakon Nakhon, Thailand*.

Carcass quantity and quality traits are economically important for the Thai beef cattle industry. Characterization of factors influencing these traits would help beef producers develop appropriate nutrition and management strategies for fattening beef cattle under the tropical conditions in Thailand. The objective of this study was to characterize factors affecting carcass weight (CWT), dressing percent (DP), and marbling score (MBS; 1 = low to 5 = high) of crossbred beef cattle raised under Thai tropical conditions. Data came from 40,107 bulls and heifers, fattened in 3,939 farms, and collected at the slaughter house of the Pon Yang Kham Livestock Breeding Cooperative NSC Ltd. from January 2004 to December 2010. Cattle breeds were classified as 1/2 Charolais 1/2 Brahman (CB), 1/2 Limousin 1/2 Brahman (LB), and 1/2 Simmental 1/2 Brahman (SB). Seasons were winter (November to February), summer (March to June), and rainy (July to October). The model included the fixed subclass effects of year-season, breed group, and sex, covariates for slaughter age and slaughter weight, and a random residual. Least squares means (LSM) for subclass effects were compared using Bonferroni *t*-tests. All subclass effects influenced (P < 0.05) CWT, DP, and MBS, except for sex that had no effect

on MBS. Crossbred CB and LB animals had similar CWT and DP, but CB had higher (P < 0.0001) MBS (3.11 ± 0.01) than LB (3.06 ± 0.01). Crossbred SB had similar MBS to LB, but lower (P < 0.0001) CWT (SB: 336.84 ± 0.42 kg; CB: 341.08 ± 0.16 kg; LB: 341.81 ± 0.45 kg) and DP (SB: 55.66 ± 0.07%; CB: 56.32 ± 0.03%; LB: 56.49 ± 0.07%) than CB and LB. Bulls had higher CWT (343.18 ± 0.20 kg vs. 336.64 ± 0.37 kg) and DP (56.74 ± 0.03% vs. 55.57 ± 0.06%) than heifers. Results suggested that CB and LB would be the most advantageous to increase carcass quantity and quality of beef cattle under Thai tropical conditions.

Key words: beef, carcass, tropical

T171 Forage yield and quality of two genetic materials of corn (*Zea mays*) harvested at two different cutting heights in Costa Rica. J. A. Elizondo-Salazar^{*1}, J. A. Vargas-Elizondo¹, and E. E. Corea-Guillén², ¹*Estación Experimental Alfredo Volio Mata, Facultad de Ciencias Agroalimentarias, Universidad de Costa Rica*, ²*Departamento de Zootecnia, Facultad de Ciencias Agronómicas, Universidad de El Salvador*.

Corn silage is one of the most popular forages fed to dairy cows in Costa Rica and in many areas of the world due to its good agronomic and ensiling characteristics, high concentration of nutrients, and excellent palatability. It is common to place strong emphasis on total DM yield; however, this measurement alone is a poor indicator of nutritive value. For this reason an experiment was carried out at the Alfredo Volio Mata Experiment Station of the University of Costa Rica, located at an altitude of 1,542 m, with an average annual rainfall of 2,050 mm. The purpose of the study was to determine forage yield and quality of 2 corn cultivars evaluated at the same age and in similar physiological stage. A 2x2 factorial design was used (corn cultivars: hybrid and native, cutting height: 15 and 45 cm). Leaves, stalks, and ears were separated and analyzed for DM, CP, and NDF content. Native corn yielded more DM/ha (P < 0.05); however, increasing the height of cutting lowered yields of harvested DM/ha only in the native corn. Cutting height only affected DM content of leaves and ears in the native corn (P < 0.05).

Table 1.

	Hybrid 15 cm	Hybrid 45 cm	Native 15 cm	Native 45 cm
Leaves DM, kg/ha	3344.83 ^b	3142.29 ^b	5175.90 ^a	3306.38 ^b
Stalks DM, kg/ha	4492.48 ^c	4000.43 ^c	8622.81 ^a	6882.76 ^b
Ears DM, kg/ha	3142.19 ^a	3280.57 ^a	1480.57 ^b	195.67 ^c
Leaves DM, %	18.38 ^a	18.89 ^a	17.09 ^a	14.84 ^b
Stalks DM, %	12.91	14.11	10.12	10.72
Ears DM, %	10.64	10.60	9.47	10.14
Leaves CP, %	17.32	17.30	17.81	17.48
Stalks CP, %	7.30	7.14	7.79	8.04
Ears CP, %	11.91 ^b	12.89 ^b	16.88 ^a	15.21 ^a
Leaves NDF, %	68.87	66.89	66.98	66.42
Stalks NDF, %	77.56	77.26	77.13	78.02
Ears NDF, %	70.29 ^b	66.37 ^b	57.45 ^a	56.80 ^a

Key words: corn silage, cutting height, forage

T172 Comparison of chemical composition, in situ degradability and in vitro gas production of ensiled and sun-dried mulberry pomaces. Z. Bo*, Q. Meng, L. Ren, F. Shi, and Z. Zhou, *State Key Laboratory of Animal Nutrition, Beef Cattle Research Center, College of Animal Science and Technology, China Agricultural University, Beijing, China.*

The nutritive values of sun-dried (SDMP), naturally ensiled (NEMP) and microbial ensiled mulberry pomace (MEMP) were evaluated using chemical analysis, in situ and in vitro gas production techniques. Compared with SDMP, natural and inoculated ensiling treatment of mulberry pomaces did not change OM, NDF and NDF content ($P > 0.1$), but did decrease ($P < 0.05$) CP content by about 2 percentages, indicating protein degradation occurring during ensiling. Among 2 ensiled mulberry pomaces, treatment with microbial inoculation resulted in reduced pH, increased concentrations of lactate, acetate and propionate, but in unchanged concentration of ammonia in comparison with natural ensiling of mulberry pomaces. These results indicated that microbial inoculation is favorable for improvement of ensiling quality of mulberry pomaces. The in situ effective degradabilities of SDMP were 2.35 and 2.88 percentages higher ($P < 0.01$) for DM, and 10.83 and 7.13 percentages higher ($P < 0.01$) for CP than NEMP and MEMP, respectively, indicating that ensiling treatment of mulberry pomaces can supply more bypass CP and other nutrients to small intestines because of reduced ruminal degradabilities. The in vitro gas production of SDMP was higher ($P < 0.01$) than NEMP and MEMP, while methane proportion of SDMP was highest (63.3%), followed by MEMP (58.7%) and NEMP (48.2%). On the whole, ensiling treatment would be an appropriate way to store mulberry pomaces in terms of their reduced ruminal degradabilities of DM and CP, lower methane production and improved ensiling qualities, compared with sun-drying treatment.

Key words: mulberry pomace, sun-dried, ensiled, in situ, in vitro

T173 Immune status of water buffalo calves allowed to nurse their dams. J. A. Elizondo-Salazar*¹, B. Cáseres-Alvarez¹, and A. J. Heinrichs², ¹*Estación Experimental Alfredo Volio Mata, Facultad de Ciencias Agroalimentarias, Universidad de Costa Rica,* ²*The Pennsylvania State University, University Park.*

Water buffalo for milk and meat production has increased during the last decade in Costa Rica; however, there is a lack of information on how to improve the productivity and health of these animals. Passive transfer status has been established as a significant source of variation in growth performance of buffalo calves. Measurement of serum total protein (STP) by refractometer as an estimate of serum immunoglobulin concentration is the simplest test to give an indication of adequate passive transfer of immunity. A value of 5.0 g/dL has been established as the cutoff point for assessment of passive transfer status. Since there is no data on the immune status of water buffalo calves in Costa Rica, the objective of this study was to determine STP concentration in neonatal buffalo calves allowed to nurse the dam during the first hours of life. Blood samples were collected between d 1 and 7 of age from 53 heifer and 49 bull calves from one commercial farm in the Northern region of Costa Rica. All blood samples were collected into serum (red top) Vacutainer tubes, refrigerated overnight, centrifuged, and the serum separated from clot within 24 h of collection. A hand-held refractometer (Atago Master-Sur/Na, Bellevue, WA) was used to measure STP. GLM procedure was used to establish differences between parity and breed of the dams, and sex of the calf. Descriptive statistics were generated to define percentage of failure of passive transfer by

sex of the calf and parity of the dam. Overall failure of passive transfer of immunity was not as high as that seen in other species, 7.84% of calves had failure of passive transfer (heifers 9.43%, bulls 6.12%). There was no significant difference between sex of the calves for STP concentration (heifers 6.83 g/dL, bulls 7.01 g/dL). Calves coming from dams of second parity had higher ($P < 0.05$) STP concentration (7.42 ± 0.27 g/dL) than those coming from water buffalo cows with ≥ 4 calvings (6.55 ± 0.21 g/dL).

Table 1. Failure of passive transfer (%) by parity of dam and sex of neonates

Parity	Heifers	Bulls	Both
1	6.67	0.00	3.33
2	10.00	0.00	5.26
3	7.69	0.00	5.00
≥ 4	13.33	16.67	15.15

Key words: passive transfer of immunity, serum total protein, water buffalo

T174 Milk composition, blood cellular and chemical components of Saanen and local Lebanese goats. F. T. Sleiman*, H. H. Itani, E. K. Barbour, M. T. Farran, and Z. G. Kassaiy, *American University of Beirut, Beirut, Lebanon.*

A study was conducted to determine the effect of prevailing Lebanese management conditions on the performance of imported Saanen goat breed compared with a local breed as reflected in milk and blood components. A total of 30 goats, 15 goats of each breed (5 lactating does, 5 doe kids and 5 bucks), were used and subjected to similar health management and feeding conditions. Daily milk yield, milk mineral and calcium percentages of Saanen goats were significantly higher ($P < 0.05$) than that of the local breed and averaged 5.2 vs. 0.6 L, 0.84 vs. 0.74% and 0.18 vs. 0.14%, respectively. Milk fat, protein and total solids percentages were not significantly different ($P > 0.05$). Does and bucks age (mature vs. kid) had a significant influence ($P < 0.05$) on blood parameters such as eosinophils (1.70 vs. 0.40%), monocytes (6.80 vs. 14.50%), total white blood cell count (12.61 vs. 22.79×10^3 /mL), packed cell volume (22.90 vs. 33.00%), hemoglobin (7.50 vs. 10.56 g/dL) and plasma glucose level (62.50 vs. 102.90 mg/dL). Other blood components such as basophils, lymphocytes, neutrophils and red blood cells were neither significantly different among breeds nor among genders ($P > 0.05$). Results indicate that Saanen goat breed adapted well to prevailing health and feeding conditions of Lebanon.

Key words: blood components, milk composition, Saanen goat

T175 Assessment nutrient matrix values of three xylanase and β -glucanase on broilers performance fed wheat-based diet. S. A. Moftakharzadeh*, H. Moravej, and M. Shivazad, *Department of Animal Science, Agriculture and Natural Source Pardis, University of Tehran, KarajIran.*

The effect of feeding wheat-based diets supplemented with 3 commercial enzymes containing xylanase and β -glucanase activities based on nutrient matrix values were investigated on the performance, meat yield and jejunal digesta viscosity broiler chicks. A total of 208-d-old male broiler chicks (Ross 308) were allocated to 4 treatment groups, with 4 replicates per treatment group and 13 birds per replicate pen. All data were analyzed in a randomized complete design. Overall, from

0 to 42, only addition of enzyme B to wheat-based diet significantly ($P < 0.05$) increased average daily feed intake (ADFI) and average daily gain (ADG). Moreover, FCR of broilers were significantly ($P < 0.05$) improved when enzyme A added to basal diet. The relative weight of the breast, thigh, liver, and gizzard as percentage of live weight were not affected by enzyme supplementation ($P < 0.05$). The relative weight of the abdominal fat as proportion of live weight was also significantly ($P < 0.05$) increased by addition of enzymes A and B. Enzyme supplementation decreased viscosity of jejunal contents of chicks at d 23, but only enzymes A reduced significantly ($P < 0.05$) the viscosity of jejunum compared with control diet. In conclusion, enzyme A showed the best FCR among enzymes and this enzyme can be preferred choose for adding to wheat-based diets.

Key words: broiler, enzyme, matrix value, performance

T176 Evaluation of nutrient matrix values for different kinds of NSP enzymes on performance, water intake, litter moisture and jejunal digesta viscosity of broilers fed barley-based diet. S. A. Moftakharzadeh*, H. Moravej, and M. Shivazad, *Department of Animal Science, Agriculture and Natural Source Pardis, University of Tehran, Karaj/Iran.*

In this study, we evaluate the effect of using different mixed enzymes on releasing of ME and amino acids (AA) from barley-based diets and compare the results with those fed barley and the corn diets without enzyme. Effects of enzyme on the performance, water intake, litter moisture and jejunal digesta pH and viscosity of chicks were investigated. In entire period, addition of all enzyme to the barley-based diet significantly ($P < 0.05$) increased average daily feed intake (ADFI) and the highest intake was for birds that were fed a diet containing enzyme A ($P < 0.05$). Overall, from 0 to 42 d, average daily gain (ADG) was significantly ($P < 0.05$) increased by enzyme supplementation and the highest body weight belonged to birds that received enzyme A ($P < 0.05$). Generally, from 0 to 42 d of age, feed conversion ratio (FCR) was significantly ($P < 0.05$) improved when diets containing enzyme were compared with barley-based diet without enzyme, but there were no significant differences among diets containing enzymes A and C and the corn-based diet. The carcass weight, and the relative weight of the abdominal fat were significantly ($P < 0.05$) increased by enzyme addition. Enzyme supplementation significantly decreased jejunal viscosity at Day 23 ($P < 0.05$), whereas pH jejunal digesta was not changed ($P > 0.05$). By adding enzymes, water to feed ratio decreased at 15, 25, and 33 d of age and litter quality was significantly improved ($P < 0.05$). In conclusion, considering nutrient matrix values for all

used enzymes improved performance of broilers and can be used in formulating diets for decreasing cost of commercial broilers diets based on barley instead of corn.

Key words: broiler, enzyme, nutrient matrix value, performance

T177 The effects of albusin B (bacteriocins) of *Ruminococcus albus* 7 expressed by yeast on the lipid metabolism of mice. Y. H. Hsieh*¹, H. T. Wang², J. T. Hsu¹, and C. Y. Chen¹, ¹*National Taiwan University, Taipei, Taiwan,* ²*Chinese Culture University, Taipei, Taiwan.*

In the previous study, we successfully isolated albusin B (bacteriocin) from *Ruminococcus albus* 7 and mass-produced by the *Saccharomyces cerevisiae* expression system. We also found that broilers supplemented with albusin B had a better intestinal absorption of protein and carbohydrate, and caused a greater growth performance. The objective of this study was to elucidate the effect of albusin B on the lipid metabolism in a mouse model. Twenty-four of BALB/c healthy male mice with 6 weeks of age were randomly divided into 3 groups: normal saline (control), yeast (0.125 µg /g body weight), yeast with albusin B (0.125 µg/g body weight) were supplemented continuously for 14 d then sacrificed. Compared with the control mice, mice supplemented with albusin B decreased body weight with no effects on feed intake. Neither body weight nor feed intake was changed by the yeast supplementation. In the intestinal morphology, mice with albusin B supplementation had the highest villus height in the jejunum than the other 2 groups ($P < 0.05$). Both yeast and albusin B supplemented mice had a higher mRNA expression of fatty acid binding proteins and acyl-CoA oxidase in the jejunum and liver than the control mice did. Mice with albusin B treatment had a lower mRNA expression of acetyl-CoA carboxylase (ACC) and fatty acid synthase (FAS) in the jejunum and liver, while mice with yeast treatment had a higher mRNA expression of ACC and FAS in the jejunum and a lower mRNA expression of ACC and FAS in the liver. Albusin B supplementation caused a lower plasma level of triglyceride and free fatty acids, and a higher plasma level of high density lipoproteins ($P < 0.05$); while yeast supplementation did not modulate the plasma lipid compositions. These results implied that albusin B supplementation modulated the intestinal lipid metabolism, decreased the hepatic fatty acid synthesis, therefore improved the plasma lipid compositions, which might contribute to the lower body weight.

Key words: albusin B, lipid metabolism, mice