**附件2：会议论文投稿说明**

**The 6th International Symposium on Dairy Cow Nutrition and Milk Quality**

**Instructions to Submit Short Communications**

**May 3-5, 2019, Beijing, China**

**Deadline: March 25, 2019**

**Submissions send to: jiaqiwang@vip.163.com**

Short communications are invited from graduate students to report their research. The Scientific Committee of the Symposium will review the manuscripts and those accepted will be presented as oral presentations in the Graduate Student Seminars. The entire submission should not exceed 1000 words. The whole paper includes introduction, Materials and Methods, Results, Conclusion, and References. The Introduction should introduce only background information pertinent to the study and the objective(s). The Materials and Methods section primary describes the experimental design and major methods. The Results section should describe the main findings and brief interpretation of the results. Figures and tables are allowed in this section. Numeric results should be supported by proper statistical analysis and indicates in the figures or tables. The Conclusion section should report the main conclusion(s) and implication of the findings. Do not repeat the results. No more than 10 references can be cited in the communication and listed in the References section. Manuscripts should be prepared in Microsoft Words, typed in double-space. Please use Times New Roman font at 12 points. Special characters (e.g., Greek, math, symbols) should be inserted using the symbols palette available in this font.

**论文回执表：(请投稿时附在稿件中)**

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**样文格式：**

**Response of milk fatty acid profile to different forage sources in diets**

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**Introduction**

The profile of fatty acids (FA) is one of the most important indicators to evaluate the dairy milk nutritional value, which lies in the content and form of unsaturated fatty acids (Bauman et al., 2010). Due to the large amount of unsaturated fatty acid (UFA), dairy milk fat is benefit for human health by preventing many illnesses including cardiopathy and carcinogenesis（Bauman et al., 2010; Elwood et al., 2010).Therefore, the manipulation of milk FA profile has been the focus of extensive research in recent years.The profile of milk FA is determined by many factors, while the forage type is a key influencing factor. (Benchaaret al., 2007;Shingfieldet al., 2005;Khorasaniet al., 2001).The purpose of this study was to evaluate the response of milk fatty acid profile to diets with different forage sources.

**Materials and methods**

Thirty-two primiparous Holstein dairy cows with similar production performance (55±15 DIM and 33.22±4.57 kg of milk/d) were divided into 2 groups randomly according to the forage sources (MF group, alfalfa and corn silage; CS group, corn straw). The basal diets in two groups were the same（F:C=65:35, DM basis）.Basal diets were formulated to meet the nutrient requirement of cows producing 32 kg of 3.5% FCM/d according to the Feeding Standards of Dairy Cattle, China NongYe HangYe Boaozhun/Tuijian-34 (China, NY/t34, 2004). Cows were gradually adjusted to the experimental diets in a 14-d period. The duration of the experiment was 91-d.Cows were fed total mixed ration(TMR) using automatic feeding system. Animal health condition and milk yieldwas monitored and recorded each day during the whole experimental period. Dry matter(DM) contentof TMR and orts were collected weekly and milk samples were collected every other day. Milk fatty acids were analyzed by Gas Chromatography (Agilent Technologies, Hewlett Packard Co., Avondale, PA) fitted with a flame-ionization detector(Khas-Erdene et al., 2010).

Data were analyzed using GLM model of SAS 9.1. Significance level was declared at *P*<0.01.

**Results**

The resultsrevealed that different forage sources had significant effect on the dry matter intake (DMI), milk yield, milk fat yield, milk protein percentage and milk protein yield between two groups*(P*<0.01*)*(Table 1).

Compared with group CS, the profile of milk fatty acids revealed that group MF had higher proportion of saturated fatty acid(SFA) and short and medium chain fatty acid(SMCFA) (*P*<0.01). The proportion of unsaturated fatty acid(UFA) and monounsaturated fatty acid(MUFA) of group CS is higher than group MF(*P*<0.01).(Table 2)

*Table 1. Effect of different forages on milk composition*

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Treatment1 | SEM3 | P-value |
| MF | CS |
| DMI2, kg/d | 21.4A | 17.4B | 0.34 | <0.0001 |
| Milk, kg/d | 30.5A | 23.1B | 0.90 | <0.0001 |
| Milk fat, % | 4.46 | 4.38 | 0.13 | 0.90 |
| Milk fat, kg/d | 1.36A | 1.01B | 0.03 | <0.0001 |
| Milk protein, % | 3.66A | 3.32B | 0.07 | 0.0012 |
| Milk protein，kg/d | 1.11A | 0.77B | 0.03 | <0.0001 |

1Cows were fed a basal diet supplemented with either alfalfa and corn silage(MF) or corn straw(CS) as forage source.

2DMI=Dry matter intake.

3SEM= Standard error of least squares of means.

A.BExpressed as significant level, *P<0.01.*

*Table2. Effect of different forage types on milk fatty acid (FA) composition(g/100g FA)*

|  |  |  |  |
| --- | --- | --- | --- |
| Item2 | Treatment1 | SEM3 | P-value |
| MF | CS |
| SFA | 74.77A | 69.93B | 2.42 | <.0001 |
| UFA | 25.23B | 30.07A | 2.42 | <.0001 |
| MUFA | 21.63B | 26.51A | 2.27 | <.0001 |
| PUFA | 3.60 | 3.56 | 0.40 | 0.2187 |
| LCFA | 52.62B | 58.98A | 2.25 | <.0001 |
| SMCFA | 47.38A | 41.02B | 2.25 | <.0001 |

1Cows were fed a basal diet supplemented with either alfalfa and corn silage(MF) or corn straw(CS) as forage source.

2Expressed as different kinds of fatty acid: SFA= Saturated fatty acid; UFA=Unsaturated fatty acid; MUFA=monounsaturated fatty acid; PUFA=polyunsaturated fatty acid; LCFA= Long chain fatty acid; SMCFA=short and medium chain fatty acid.

3SEM=Standard error of least squares of means.

A.BExpressed as significant level, *P<0.01.*

**Conclusions**

Forage sources had significant effect on milk fatty acid profile. The diet with corn straw as forage source could significantly increase UFA and LCFA proportion in milk.The high proportions of UFA and LCFA may be due to low milk yield .

**References**

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