Probiotics are live microbial feed supplement which beneficially affects the host animal by improving its intestinal microbial balance.(Fuller .1989).The concept of probiotics was modern defined as “a viable mono or mixed culture of bacteria which,when applied to animal or man, effects the host beneficially by improving the properties of the indigenous flora”.(查找原参考文献，修改成原定义）Previous studies indicated that probiotics would prophylaxis against some types of intestinal infection （2） , improved digestion of lactose against lactose maldigestion lactose‐containing foods（3） . and these microflora are capable of providing numerous health benefits beyond basic nutritional value （5）.

In animal husbandry, probiotics not only have an important role in the health of ruminants, but also contribute to the high quality product of ruminants.Qiao GH, Shan AS proved that bacillus licheniformis increased ruminal apparent nutrient digestibility of neutral detergent fibre, acid detergent fibre, and organic matter. （6）Boyd J found that the addition of a direct-fed microbial alone improved milk and protein yield, energy-corrected milk, and apparent digestibility of crude protein, neutral detergent fiber, and acid detergent fiber, and the inclusion of glycerol (G+) had a positive effect on apparent dry matter and acid detergent fiber digestibility compared with M-/G-. The addition of a direct-fed microbial and dietary glycerol may improve yield and digestibility for cows subject to heat stress. （7）Sun P demonstrate that B. subtilis natto improves milk production and milk components yield, decreases SCC and promotes the growth of total ruminal bacteria, proteolytic and amylolytic bacteria, which indicate that B. subtilis natto has potential to be applied as a probiotic for dairy cows.（8）

However, the introduction of these probiotics may change the balance of the original rumen microbial community.(关于外缘微生物引起肠道不良反应的事例和证明) In this case，We screened the rumen flora of dairy cows of different yields and selected three probiotics rich in the intestine of high-yielding dairy cows and fed them in the dairy cow diet to explore the effects on milk production of dairy cows.

（6）.Effect of supplemental Bacillus cultures on rumen fermentation and milk yield in Chinese Holstein cows.

（7）.Effects of the addition of direct-fed microbials and glycerol to the diet of lactating dairy cows on milk yield and apparent efficiency of yield.

（8）.Effects of Bacillus subtilis natto on milk production, rumen fermentation and ruminal microbiome of dairy cows.