國立嘉義大學九十三學年度
動物科學系碩士班招生考試試題

科目：專業英文

一、試將下列英文翻譯成中文。 (25%)

The digestibility of the dietary fat, quantity of ME and fat consumed, and environmental temperature in which pigs are housed influence the nutritional value of fat as an energy source of pigs. In general, the substitution of fat for carbohydrate calories in a diet for pigs maintained in a thermoneutral environment increases growth rate and decreases the ME required per unit of body weight gain. But for pigs housed in a warm environment, voluntary ME intake increases by 0.2 to 0.6 percent for each additional 1 percent of fat added to the diet. This increase is because the heat increment of fat is less than that of carbohydrate.

二、試將下列英文翻譯成中文。 (25%)

The results of SDS-PAGE showed that marination in 0.1 M lactic acid or calcium lactate could accelerate the disappearance of troponin-T, tropomyosin, titin and nebulin and the appearance of 34 and 30 kDa degradation components. Additionally, marination in 0.1 M lactic acid might also speed up the degradation of myosin heavy chains and actin. Western-blotting with anti-desmin indicated that degradation of desmin was faster with marination in 0.1 M calcium lactate than in 0.1 M lactic acid.

三、試將下列英文翻譯成中文。 (25%)

In ruminants, milk yield can be affected by treatment with growth hormone (rbGH) and/or changes in frequency of milking. Frequent milkings encourage the maintenance of lactation, whereas infrequent milkings result in mammary involution. Our objective was to evaluate the influence of rbGH treatment and milking frequency on mammary gland morphology and milk composition. After adaptation to twice-daily milkings, six Saanen goats in late lactation were milked once daily from one udder-half and thrice-daily from the other udder-half. Concurrently, three of the six goats received daily injections of rbGH. After 23 d of treatment, milking frequency significantly affected milk yield (+8% vs. -26% for thrice- vs. once-daily milking). Additionally, treatments of rbGH increased milk yield from thrice-daily milked udder-halves (+19%), but failed to abate the reduction in milk yield from once-daily milked udder-halves (-31%). Mammary glands were heavier in the frequently milked udder-halves and in GH-treated goats. Based on histological and DNA analysis of mammary tissues, it was determined that milking frequency clearly affected epithelial cell numbers and alveolar diameter, whereas rbGH induced a potential cell hypertrophy and only a tendency to increase and/or maintain the mammary cell number. RNA concentration and kappa casein gene expression were not affected by treatments. In udder-halves milked once-daily, low casein:whey protein ratios, high Na^+:K^+ ratios, and high somatic cell counts (SCC) were indicative of changes in epithelial permeability, which rbGH treatment facilitated. The present data suggest that milking frequency and exogenous treatments of rbGH use different cellular mechanisms to influence mammary gland morphology and milk production.

四、閱讀測驗。 (25%)

BE CONSISTENT

Lack of consistency is the bane of far too many breeding programs. Breeders are often influenced by fads that may seem important at the time but have little long-term justification. They alter their selection programs to meet the new need, only to find later that they have been wasting time or even backtracking. In some breeding industries, consensus as to what constitutes the ideal animal shifts like a pendulum, and inevitably the pendulum swings too far before enough breeders revolt and its direction is reversed. To be consistent, you must be able to see into the future and determine what kind of animal will be most useful over the longer term. This means studying and thinking, setting goals and sticking to them. That is not to say that once set, breeding objectives cannot be amended. There are legitimate reasons to alter the direction of a breeding program. Markets change and new information may cause you to reconsider long-held notions. Still, the more consistent your goals, the more definable and therefore the more marketable your product.

Hints.

bane: A deadly poison.

fad: A fashion that is taken up with great enthusiasm for a brief period of time.

pendulum: A body suspended from a fixed support so that it swings freely back and forth under the influence of gravity.

Questions for students to answer.

(1) What causes inconsistency in breeding programs?

(2) What can be done to foster consistency?

(3) What do you plan to do, in terms of consistency, during your graduate study?