106-02 動科特論簡報(10分鐘)規範-by楊价民

本學期seminar三篇paper擇一，根據下列分項準備ppt內容：

1. Abstract
2. Introduction
   (1) Indicate issue analysis on the paper and provide supplements
   (2) Key problems to be resolved
   (3) Possible solutions
   (4) Hypothesis and study objective
3. Materials and Methods
   (1) Indicate experimental units on the paper and further info
   (2) Treatment arrangement design
   (3) Experimental design
   (4) Error control
4. Sampling and Analysis: one example
5. Statistics
6. Results and Discussion: one example, option of figure or table

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Oral Report of Special Topics in Animal Science: example

ID: **Name:**

1. Article title (from one of three seminar journal papers):

Effects of Propylene Glycol on Milk Production, Serum Metabolites and Reproductive Performance during the Transition Period of Dairy Cows

-Chinese translation: 丙二醇對轉換期乳用種母牛產乳量、血清代謝物與繁殖表現之影響

2. Origin of article:

Lien et al. (2010) Asian-Aust. J. Anim. Sci. 23(3):372-378

範例

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Abstract

ABSTRACT : The objective of this study was to investigate the effects of an oral drench of propylene glycol (PG) on milk production, serum metabolites and reproductive performance during the transition period of animals. Twenty-four 2-3 multiparous Holstein cows (average body weight 565 kg, body condition score about 3.6, at the 9th month of gestation) were selected, blocked, and then randomly assigned into a PG and a control group. The control and the PG group cows were orally drenched with water or 50 ml

1. underline research objective
2. underline and list materials and methods
   (1) experimental unit: Twenty-four 2-3 multiparous
   (2) error control: selected, blocked, randomly assigned
   (3) treatment: a PG and a control group.

範例

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Introduction-1

1. Show: issue analysis

The period of 3 weeks prepartum to 3 weeks postpartum in dairy cows is the transition period. During this period, feeding and management are critical factors for cows. Good feeding and management during this period benefits future milk production. However, if feeding and management are inadequate, metabolic syndromes such as ketosis and milk fever can develop in the early period of postpartum (Curtis et al., 1985; Goff and Horst, 1997).

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Introduction-2

2. Show: key problems to be resolved

The DMI of dairy cows starts declining at 3 weeks prepartum, as during this period a fetus grows rapidly and various stresses can adversely impact hormone secretion (Grummer, 1995). This reduction in DMI is typically apparent at 7 days prepartum. Grummer (1995) and Robinson and Garrett (1999) indicate that the DMI declines during the prepartum period can be up to 30-35%, especially in subtropical area like Taiwan, where the summer temperatures usually reach 35°C during the day

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Introduction-3

3. Show: possible solutions

Propylene glycol, which is rich in energy (4.7 Mcal NE/L) (Miyoshi et al., 2001), can rapidly supply transition dairy cows with energy. Propylene glycol is easily and rapidly absorbed and metabolized in the rumen. Roughly 50% can be metabolized 1-2 h after feeding, with approximately 80-90% usually metabolized 3h after feeding. Propylene glycol can also be converted to propionic acid in the rumen and transported to liver, where it is converted to

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Introduction-4

4. Show: hypothesis and study objective

performance was improved (Miyoshi et al., 2001). Thus, we hypothesize that PG may improve available energy during the transitional period of cows, offering beneficial effects, especially environments of high temperature and humidity.

This study, therefore, investigates the effects of adding PG during the transitional period on milk production, serum traits, and reproductive performance of dairy cows in high temperature, high humidity climates.

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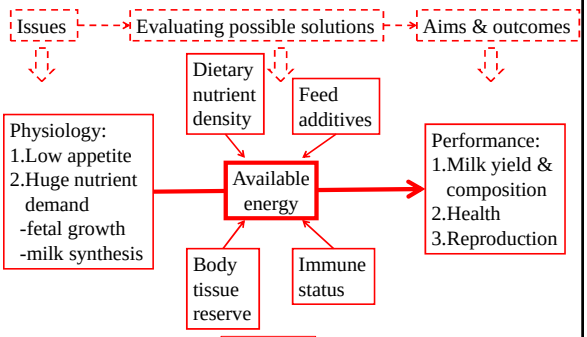
Schematic summary of study hypothesis



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Materials and Methods

1. Experimental units

was 33.25±2.56°C). Twenty-four 2-3 multiparous Holstein dairy cows were selected for this study (average body weight 565 kg, BCS about 3.6; 9 months pregnant).

2. Treatment arrangement

randomly divided into 2 groups: a control group (water 550 ml) and a PG (500 ml PG mixed with 50 ml molasses) group. The water and the PG were orally drenched from 7

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Materials and Methods

3. Experimental design

was 33.25±2.56°C). Twenty-four 2-3 multiparous Holstein dairy cows were selected for this study (average body weight 565 kg, BCS about 3.6; 9 months pregnant). Selected cows were blocked by parity, month of calving, 305 days mature equivalent milk production and BCS, then randomly divided into 2 groups: a control group (water 550

4. Error control

Selected cows were blocked by parity, month of calving, 305 days mature equivalent milk production and BCS, then randomly divided into 2 groups: a control group (water 550

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Sampling and Analysis: one item

About 15 ml of blood samples were taken from the tail vein at 7 and 1-3 days prepartum, and 0-7, 14, 21 and 28 days postpartum at a fixed time (16:00). Milking samples

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Plasma glucose concentration was measured by a glucose-oxidase strip with a glucose analyzer (Bayer, Germany). Insulin concentration was examined using an

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Statistics

Experimental data were then analyzed using the mixed model of SAS (1998) with repeated measures, according to the following model.

$$Y_{ij} = \mu+\alpha_i+\beta_j+w_k+\beta w_{jk}+e_{ijk}$$

Where μ is the mean, α_i the effect of the ith treatment, β_j the effect of the jth block, w_k the effect of the kth week, βw_{jk} the interaction between week and block, and e_{ijk} is the residual error.

1. Software and method: the mixed model of SAS (1998)
2. Analytical model: $Y_{ij} = \mu+\alpha_i+\beta_j+w_k+\beta w_{jk}+e_{ijk}$
3. Sources of systemic error and control: week and block,

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Analysis of Variance (AOV)

RCBD

Sources	df
Treatment	1
Block (B)	3
Week (W)	5
B×W	15
Error	119
Total	143

was 33.25±2.56°C). Twenty-four 2-3 multiparous Holstein dairy cows were selected for this study (average body weight 565 kg, BCS about 3.6; 9 months pregnant). Selected cows were blocked by parity, month of calving, 305 days mature equivalent milk production and BCS, then randomly divided into 2 groups: a control group (water 550 ml) and a PG (500 ml PG mixed with 50 ml molasses) group. The water and the PG were orally drenched from 7 days prepartum to 30 days postpartum once a day. All cows

$$Y_{ij} = \mu+\alpha_i+\beta_j+w_k+\beta w_{jk}+e_{ijk}$$

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Results and Discussion: Figure (option 1)

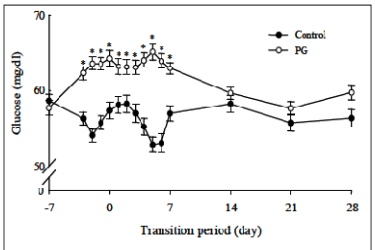

Figure 1. Effect of propylene glycol supplementation on plasma glucose concentration of cows in the transition period. Means±SE (n = 12). * Means differ significantly between groups (p<0.05).

範例

1. Statistical data presentation: Means±SE (n = 12)
2. Indication of treatment difference and probability: * (p<0.05)
3. Variant effect: glucose level changed overtime during the trial
   PG elevated glucose up to 7 d after calving

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Results and Discussion: Table (option 2)

Table 2. Effect of propylene glycol supplementation on production traits of cows in the transition period.

Items	Control	Propylene glycol
Dry matter intake (kg/day)	18.25±0.28	19.72±0.37
Body condition score[1]	2.73±0.01	3.08±0.02*
Milk yield[2] (kg/day)	26.63±.16	27.24±0.13*
Milk fat (%)	3.53±0.09	3.62±0.11
Milk protein (%)	3.22±0.13	3.28±0.19
Somatic cell count (×1,000)	332.1±58.2	315.2±30.2

Means±SE (n = 12).
* Means in the same row differ significantly (p<0.05).
[1] 1 to 5 scale where 1 = thin, 5 = fat (Wildman et al., 1982).
[2] Milk was collected from calving to 90 days milking period.

範例

1. Statistical data presentation: Means±SE (n = 12)
2. Indication of treatment difference and probability: * (p<0.05)
3. Variant effect: PG improved BCS and milk yield, but other parameters did not respond.

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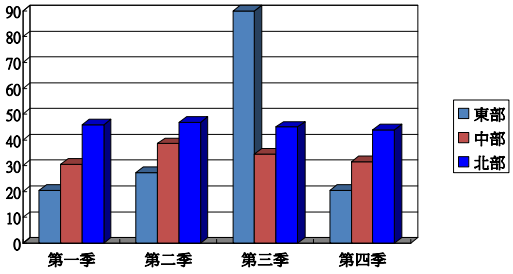
使用Excel軟體，取paper中的1組數據以2種類別的圖型呈現



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