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THE EFFECTS OF METHOD OF PRE-LAMB SHEARING OF EWES
ON PRODUCTION AND PHYSIOLOGICAL INDICATORS
OF COLD STRESS

A thesis presented in partial fulfillment
of the requirements for the degree
of Master of Agricultural Science
in Animal Science
at
Massey University

Kurnia Asumatrani Kamil

1990

ABSTRACT

This experiment was undertaken to compare the effects of two methods of pre-lamb shearing on physiological and production characteristics of ewes and their lambs with the objective of determining which method gives the greater advantages.

In July, approximately 20-63 days before lambing, sixty Romney ewes were divided at random into two equal groups, one group was shorn with a conventional comb and the other using a cover comb. The former left wool 1-3 mm in length and the latter 6-13 mm of wool on the animal after shearing. The ewes were run together on a rye grass white clover pasture for a 67 day period after shearing. Climatic conditions were considered mild with average minimum temperature of 5.2 °C, and average maximum temperature of 13.4 °C, average wind speeds of 8.5 km/h, relative humidity 80.1 %, sunshine 4.7 h and 1.2 mm of rainfall over the 67 days period after shearing.

Food intake, measured indirectly using controlled-release capsules containing chromium sesquioxide placed in the rumen, did not differ between the groups over a 21 day period after shearing. This was reflected in a lack of effect of treatment on the live weight of the ewes, birth weight of the lambs, growth rates of the lambs or wool growth of the ewes over the 67 day period. Ewes shorn by the conventional comb, however, were more severely stressed than the ewes shorn with the cover comb as indicated by the higher concentrations of non-esterified fatty acid (NEFA) and 3-hydroxybutyrate in the plasma of the former group on days 1 and 3 after shearing. Rectal temperature was a less sensitive measure than the concentrations of the metabolites and the difference between the groups in rectal temperature after shearing was not statistically significant. It was concluded that shearing with a cover comb reduces the cold stress on the ewe in comparison with the conventional method of shearing. Furthermore, it was suggested that under more severe climatic conditions than those experienced in the present experiment, that shearing with the cover comb might be expected to result in increased production.

ACKNOWLEDGEMENTS

Bismillahirrahmanirrahim,

In the Name of Allah (God), the Compassionate, the Merciful, Praise be to Allah, Lord of the universe.

The first of all, I thank Allah (God) for His guidance and mercy to me.

My sincere thanks go to my teachers Professors D.D.S. Mackenzie, C.W. Holmes, R.D. Anderson; Drs I.M. Brookes, W.J. Parker for their valuable guidance, assistance, advice and encouragement throughout my studies. I am indebted particularly to my supervisor Professor D.D.S. Mackenzie who has guided me in writing up my thesis.

I would like to thank Mr K. Kilmister for taking care of the sheep during my experiment; the chief instructor of New Zealand Wool Board for shearing of the sheep; Mr D.L. Burnham, Mr G.S. Purchas, Miss Y.H. Cottam, Ms C.M.C. Jenkinson, Ms F.S. Jackson and Mr Z. Xu for their help in shearing, midside patch, measuring of rectal temperature, collecting faecal and blood samples; Ms F.S. Jackson and Miss M.F. Scott for metabolite analysis; Mr D.A. Hamilton for pasture analysis; Mrs Barbara Purchas and Mrs Kathy Morton for chromium analysis and also to those people who have helped me directly or indirectly.

I acknowledge also the valuable assistance from Mr J. Djegho and Mr M. Chozin.

I would also like to thank the New Zealand government for the scholarship that allowed me to carry out my studies and the Indonesian government for allowing me to study in New Zealand.

I would like to extend a very special thanks to my late parents who reared, guided and educated me. I will never forget their kindness.

Lastly, but the most important to my dear wife Euis Maryamah for her love, patience, comprehension, support and encouragement and also my fervent thanks to my children Ramdhan, Eka and M. Fauzie who were the main source of my inspiration.

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LIST OF ABBREVIATIONS

| | |
|----------|--------------------------------|
| CRC | = controlled-release capsules |
| d | = day |
| DM | = dry matter |
| DOMD | = organic matter in dry matter |
| g | = gram |
| h | = hour |
| GLM | = general linear model |
| ha | = hectare |
| kg | = kilo gram |
| km | = kilo meter |
| mg | = milli gram |
| NEFA | = non-esterified fatty acid |
| l | = litre |
| m | = mile |
| ml | = millilitre |
| mm | = millimeter |
| mmol | = millimol |
| ng | = nano gram |
| OM | = organic matter |
| OMD | = organic matter digestibility |
| P | = probability |
| r | = correlation |
| RH | = relative humidity |
| rpm | = rotation per minute |
| s | = second |
| SE | = standard error |
| μ eq | = microequivalent |

Level of statistical significance

| | |
|-----|--------------------------------|
| NS | = $P > 0.10$ (not significant) |
| + | = $0.10 > P > 0.05$ |
| * | = $0.05 > P > 0.01$ |
| ** | = $0.01 > P > 0.001$ |
| *** | = $0.001 > P$ |