

## New Zealand Society of Animal Production online archive

This paper is from the New Zealand Society for Animal Production online archive. NZSAP holds a regular annual conference in June or July each year for the presentation of technical and applied topics in animal production. NZSAP plays an important role as a forum fostering research in all areas of animal production including production systems, nutrition, meat science, animal welfare, wool science, animal breeding and genetics.

An invitation is extended to all those involved in the field of animal production to apply for membership of the New Zealand Society of Animal Production at our website [www.nzsap.org.nz](http://www.nzsap.org.nz)

[View All Proceedings](#)

[Next Conference](#)

[Join NZSAP](#)

The New Zealand Society of Animal Production in publishing the conference proceedings is engaged in disseminating information, not rendering professional advice or services. The views expressed herein do not necessarily represent the views of the New Zealand Society of Animal Production and the New Zealand Society of Animal Production expressly disclaims any form of liability with respect to anything done or omitted to be done in reliance upon the contents of these proceedings.

This work is licensed under a [Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License](http://creativecommons.org/licenses/by-nc-nd/4.0/).



You are free to:

**Share**— copy and redistribute the material in any medium or format

Under the following terms:

**Attribution** — You must give [appropriate credit](#), provide a link to the license, and [indicate if changes were made](#). You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.

**NonCommercial** — You may not use the material for [commercial purposes](#).

**NoDerivatives** — If you [remix, transform, or build upon](#) the material, you may not distribute the modified material.

<http://creativecommons.org.nz/licences/licences-explained/>

## Ovarian volume is a predictor of the resumption of spontaneous oestrous cycles but not the response to the treatment of anoestrus.

D.P. NATION, F.M. RHODES, A.M. DAY<sup>1</sup> AND K.L. MACMILLAN<sup>2</sup>

Dairying Research Corporation Ltd, Private Bag 3123, Hamilton, New Zealand.

### INTRODUCTION

This study examined the use of a classification system for ovarian activity as a predictor for both the spontaneous resumption of oestrous cycles and for reproductive performance after treatment for anoestrus.

### MATERIALS AND METHODS

The first part of this study involved the examination of anoestrous cows ( $n=739$ ) from 9 herds between 2 and 6 weeks after calving. Each cow was described by age, body condition score (BCS), and ovarian volume (as measured with a "p" scale described by Morris and Day, 1994). Those cows with two small (1p) ovaries were classified as 2so; those cows with one small ovary were classified as having 1so; and those cows without small ovaries were classified as 0so. A subset of these cows ( $n=361$ ) was observed daily for oestrous behaviour.

The second part of this study involved the treatment of all anoestrous cows in the same 9 herds during the week before the start of each herd's seasonal breeding programme. Treatment for anoestrus comprised the use of a CIDR device containing 1.9g progesterone for 6 days, followed by a 1.0mg injection of oestradiol benzoate (ODB) on the seventh day. Each cow was classified according to its ovarian volume as described for part 1. Response to treatment was measured by the mean interval from the ODB injection to the day of conception (mean conception date).

### RESULTS AND DISCUSSION

Ovarian volume was significantly associated with age, but not BCS ( $p<0.05$ ; Figure 1). The cumulative proportion of cows observed in oestrus was affected by ovarian volume ( $p<0.05$ ; Figure 2).

Ovarian volume did not affect the mean conception date ( $24.2 \pm 2.1$  vs  $26.3 \pm 1.7$  vs  $23.0 \pm 2.2$ ; 2so vs 1so vs 0so; mean  $\pm$  sem).

FIGURE 1: Effect of age and body condition score (BCS) on ovarian volume.

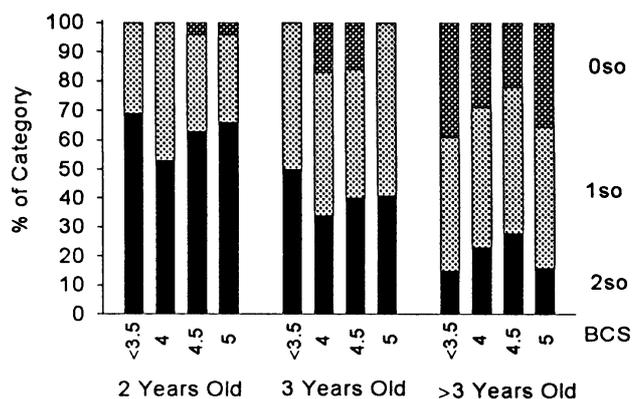
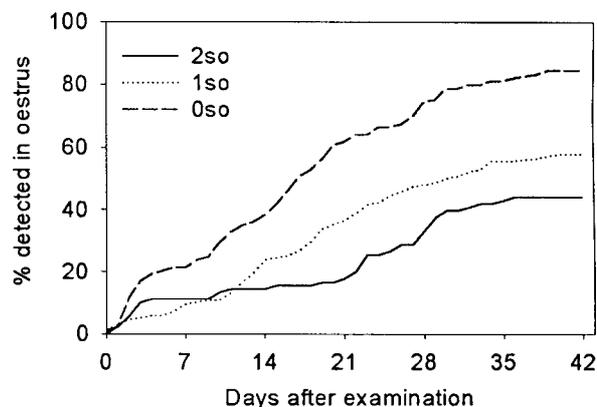


FIGURE 2: Effect of ovarian volume on the detection of a spontaneous oestrus.



In conclusion, ovarian volume was affected by age but not BCS, and was a significant predictor of the onset of spontaneous oestrous cycles. Ovarian volume was not a significant predictor of response to treatment of anoestrous cows.

Morris CA and Day AM (1994) *New Zealand Veterinary Journal*. 42:185-186.

<sup>1</sup> Tony Day Veterinarian Ltd, 105 Lake Rd, Hamilton

<sup>2</sup> Present Address: University of Melbourne, Werribee, VIC, Australia