THE USE OF INTRA-RUMINAL SLOW RELEASE CAPSULES OF CHROMIUM SESQUIOXIDE TO
ESTIMATE HERBAGE INTAKE OF GRAZING DAIRY COWS

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Herbage intake is the principal factor governing dairy cow production under a
pasture based system as practiced in Tasmania. It is very difficult to obtain
accurate estimates of intake of individual cows under grazing conditions,
without influencing diet selection. Barlow et al. (1988) reported the use of
intra-ruminal slow release capsules (CRC) of chromium sesquioxide to estimate
herbage intake of grazing beef cattle. This study examined the use of
commercially available CRC (CapTech Chrome, Melbourne) as a method of
estimating herbage intake of grazing dairy cows.

Thirty two Friesian type, multi-parous dairy cows were grazed under a system of
'block grazing' (Fulkerson et al. 1986) on temperate ryegrass/white clover
pastures. Mean calving date was 30 April 1989. Twenty six cows were dosed. To
determine the background Cr levels, six cows were not dosed. The dosing period
was between 20 June and 7 July, 1989. Individual faecal samples were collected
per rectum at 1630 hours on days seven to 18 (excluding days 12 and 13) after
dosing. Samples were pooled, dried, ground and analysed for Cr concentration.
Cows received 4 kg/cow/d (as fed) concentrates, pasture (estimated from pre-
and post-grazing rising plate meter (RPM) measurements (100 readings/block))
and ad lib. silage.

Live weight and milk parameters were collected weekly. The mean (± s.e.) live
weight of the cows was 427 (± 7.2) kg, and the mean (± s.e.) milk yield was 18
(± 0.65) l/d. Eight cows regurgitated their CRC between days five and 12 after
dosing.

This highlights the problems associated with the faecal output-indigestibility
ratio technique. There is still a need to determine whether such a device will
eliminate the necessity for daily sampling. The CRC show promise as a research
tool.

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