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Brief Communication

FARM PRODUCTION EXPERIMENTS COMPARING
FORMALDEHYDE-TREATED SILAGE WITH
CONVENTIONAL FEEDS FOR WINTERING YEARLING
BEEF CATTLE

D. B. BINNIE*, T. N. BARRY†, AND W. H. RISK*

Two trials were conducted comparing formalin + formic acid-treated silage, formalin-treated silage, untreated silage and hay as feeds for wintering weaner beef cattle. In the first trial, predominantly ryegrass/white clover herbage was wilted for 4 to 8 hours and conserved as normal vacuum-pack silage or treated with 4 litres of commercial formalin (40% w/v formalin) and 2 litres of 85% w/w formic acid per tonne of wet matter before ensiling. In the second trial predominantly ryegrass/white clover herbage was wilted for 19 to 46 hours and treated with 4½ litres of commercial formalin before ensiling. Hay was made at the same time from similar pasture.

Growth rates obtained from the feeds were 0.66, 0.41, 0.23, and 0.41 kg/head/day for formalin + formic acid-treated silage, formalin-treated silage, untreated silage, and hay, respectively. Following differential feeding the group from untreated silage showed 38.6% compensatory growth in relation to the group from formalin + formic acid-treated silage. In the first 63 days following differential feeding in trial 2, the hay and silage groups showed a temporary "standstill" relative to a third group of cattle which grazed pasture throughout both periods. When allowance is made for compensatory growth and standstill effects, the effective liveweight gains/animal/day during differential feeding were 0.23, 0.51, 0.31 and 0.41 kg for untreated silage, formalin + formic acid-treated silage, formalin-treated silage and hay, respectively.

On the basis of results in these trials and current contract rates in Southland, costs for the four feeds are 6.6, 14.8, 13.2 and 14.6 cents/animal/day representing 28.7, 22.5, 32.3 and 35.6 cents/kg liveweight gain during differential feeding for untreated silage, formalin + formic acid-treated silage, formalin-treated silage and hay, respectively. When the cheapest maintenance cost (untreated silage) is deducted and compensatory growth and standstill effects are allowed for, the net costs per effective kg liveweight gain are 6.1, 19.2, 25.0 and 22.9 cents, respectively.

*Ministry of Agriculture and Fisheries, Invercargill.

†Invermay Agricultural Research Centre, Mosgiel.