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CONSUMPTION AND DIGESTION OF DRY CUPPED CLOVER

by E. T. Bailey*

FARMERS often ask if sheep eat the dry seed heads of cupped clover (Trifolium chelleri) and, if so, how much of the seed is digested.

An attempt was made to answer these questions when Dr. G. W. Arnold of the C.S.I.R.O. conducted a feeding trial with Yamina cupped clover. The amount of seed heads consumed was measured and the fate of the eaten seed was studied.

Four adult Merino wethers were placed in pens and fed unlimited amounts of dry cupped clover collected from a sward which had not been grazed during the spring. The feeding trial followed the usual pattern. The sheep had a preliminary 10-day feeding period to accustom them to the feed on offer and also to the pen conditions. This was followed by a nine-day collection period during which liveweight changes in the sheep were measured. Samples of the feed offered, the uneaten material and the faeces were collected. The amount of feed eaten and its digestibility were then calculated.

Results were as follows:

- Dry feed eaten daily per sheep—30.5 oz.
- Digestibility of dry feed—47.4 per cent.
- Daily gain in weight per sheep—9.5 oz.

The amount of the dry feed eaten each day was high for a feed of comparatively low digestibility. (In a similar feeding trial at Kojonup, Ridley and Lloyd Davies recorded lower intakes of dry subterranean clover and rose clover even though the material had higher levels of digestibility.)

The seed heads were selectively eaten by the sheep and this undoubtedly improved their protein nutrition. The amount of seed eaten and digested was as follows:

- Seed eaten daily per sheep—5.6 oz.
- Daily excretion of seed in faeces—0.6 oz.
- Digestibility of seed—89.1 per cent.

A further point of interest is that the passage of the undigested seed through the sheep considerably improved its ability to germinate. Germination of the seed in the feed on offer to the sheep was only 8.8 per cent. but for the seed excreted in the faeces it was 29.3 per cent.

Heavy grazing of new sowings of this pasture legume during its first summer may not, in fact, be detrimental. A considerable amount of seed may be consumed but the excreted seed has a higher germination percentage and, being contained within the faeces pellet, it probably germinates within a more favourable environment.

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