

A comparison of brassica forage crops with oats

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Brassica forage crops occupy 20-25% of the cropped area in Tasmania. Few comparisons are available between the species or with oats, the other major forage crop grown. New cultivars are also becoming available from Europe and New Zealand. This experiment therefore aimed to compare species and cultivars in their pattern of dry matter production and quality aspects, relating these to the optimum time of utilization.

Methods

A range of cultivars of Kale (Chou Moellier, Kestrel, Bittern and Condor), Rape (Rangi, Wairangi and Winfred), Turnips (Green Globe, Kapai, No Bitter R) and Fodder radish (Neris) as well as Oats cv. Esk were sown at Broadmarsh in Tasmania on 4 January 1983. Crops were irrigated twice to ensure establishment before the first significant rains in late March. Plots were 15 x 2m with 4 replications and were not defoliated so recovery was not measured. Samples were taken at intervals, to measure growth rate and quality.

Results and Discussion

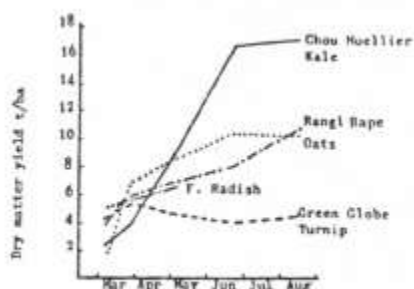


Fig. 1. Comparison of dry matter production in the five species, using cultivars grown commercially in Tasmania.

The major differences were between species. Figure 1 compares the standard commercially grown cultivars, while performance of the new cultivars is discussed below. Kale eventually produced more dry matter than the other species by mid-winter, although it was slow to establish. Yields were very high compared to those reported from Europe (1). Rape made good early growth but still produced its maximum yield in late winter. Turnips reached their maximum dry matter yield much earlier, later growth just being in roots at the expense of tops. Fodder radish flowered prematurely and would be of little value unless sown later in the autumn to delay flowering. While dry matter content of the rapes and kales increased to 12-15% by August, turnips remained low at around 10% and hence could be regarded only for maintenance of stock rather than fattening. Of the newer cultivars Bittern Kale grew faster than Chou Moellier in the early stages, while Kestrel gave higher levels of digestible organic matter and protein particularly in the thick stems, which were well utilized by sheep at the conclusion of the experiment. Winfred rape produced more dry matter than Rangi and appeared no more affected by aphids in spite of the latter's claimed tolerance. Oats grew comparatively well in mid-autumn and were of high dry matter content (up to 20%), but with low digestible organic matter and protein levels.

1. Bradshaw, J.E., Chapman, T.M. and Young, A. 1982. J. Agric. Sci. Camb. 99, 433-39.

