Duckweed (*Spirodella punctata*), a rapidly-growing aquatic plant, promises to be a valuable feed because it has a high N content that ranges from 24 to 69 g/kg DM, depending on the nutrient contents of the water on which it grows (Leng *et al*. 1995). Damry *et al*. (2001) found that duckweed, whether fresh or dried, was well accepted by sheep and promoted wool growth to an extent similar to that achieved with iso–nitrogenous amounts of cottonseed meal. As part of a study examining the potential value of duckweed as an N source for ruminants, the degradability of duckweed in the rumen was estimated.

Duckweed, 24 gN/kg DM, either fresh (FDW, 12% DM) or oven–dried at 80°C for 24 h (DDW, 99% DM) and not milled, and cottonseed meal (CSM) as a reference feed (93% DM, 68 gN/kg DM) were placed in polyester bags with pore size 44 x 44mm and incubated for up to 36 h in the rumen of two steers. The steers were fed daily 2 kg oaten chaff and 3 kg of a grain concentrate that consisted of (g/kg) 174 each of cracked barley, wheat, sorghum, oat, and maize, 87 oaten chaff, 17 molasses, 14 lime, 8.0 urea and 1.0 mineral mix.

Mean percent disappearances (± SD) of DM and N in CSM are shown in the Figures. Disappearance rate constants for DM, percent per hour (Ørskov and McDonald 1979), were 3.1 for FDW, 0.1 for DDW and 3.2 for CSM; the corresponding values for N were 2.5, 0.2, and 1.0. The effective degradabilities of DM and N, assuming a rumen outflow rate of 8%/h, were 22 and 29 for FDW, 27 and 34 for DDW, and 50 and 61 for CSM. This study suggests that 66 to 88% of duckweed N, whether fresh or dried, may escape rumen fermentation. These values may be different when the duckweed is fed to animals because a reduction in particle size from chewing and rumination may increase degradability, and fresh duckweed may resist microbial attachment.

**Figure 1** Disappearances in the rumen of DM and N from dried and fresh duckweed (DDW, FDW) and cottonseed meal (CSM).

