The biology and non-chemical control of Lesser Trefoil (*Trifolium dubium* Sibth.)

W Bond, G Davies, R Turner
HDRA, Ryton Organic Gardens, Coventry, CV8, 3LG, UK

Lesser trefoil

(lesser yellow trefoil, lesser hop trefoil, little hop clover, yellow suckling clover)
***Trifolium dubium* Sibth.**
(*T. minus, Chrysaspis dubia*)

Occurrence

Lesser trefoil is a procumbent winter or rarely summer annual found in grassy places and open ground. It is common throughout Britain (Stace, 1997; Grime *et al.*, 1988; Clapham *et al.*, 1987). Two distinct forms occur, one of open habitats on cinders and spoil, the other on grassland sites, waysides, wasteland and on lawns. It is often associated with meadow habitats (Gibson, 1997). Lesser trefoil is recorded up to 1,600 ft in Britain (Salisbury, 1961).

Biology

Lesser trefoil flowers from May to June in dry sites and from May into October in moist sites (Grime *et al.*, 1988). The flowers are self-pollinated. Seeds ripen 1 month after flowering. The 1,000 seed weight is 0.3 g (Champness & Morris, 1948). Lesser trefoil seeds have hard-coated dormancy.

Seed sown in a 75 mm layer of soil in cylinders in the field and stirred periodically emerged mainly from June to October with odd seedlings at other times (Roberts & Boddrell, 1985). In the 5-year trial, seedling emergence was relatively high in the first 3 years after sowing then gradually reduced to year 5.

Persistence and Spread

Lesser trefoil forms a persistent seedbank. Thompson *et al.* (1993) suggest that based on the seed characters, lesser trefoil seed should persist longer than 5 years. Some viable seeds remained after 5 years in cultivated soil (Roberts & Boddrell, 1985). Lesser trefoil can form an appreciable seedbank in the soil beneath grassland where the plant has been allowed to flower and set seed (Roberts, 1981). Seeds have been recorded in enormous numbers in the soil beneath pastures even though the plant was poorly represented in the vegetation (Chippindale & Milton, 1934; Champness & Morris, 1948). Seed buried in mineral or peat soil and left undisturbed retained viability for 20 years but only at a very low level after the first year (Lewis, 1973). Seed stored under granary conditions had 44% viability after 1 year and 1% after 4 and again after 20 years.

Lesser trefoil seed has been found as a contaminant in crop seeds.

Management

In lawns it survives mowing by developing a low growth habit (Grime *et al.*, 1988). This is not as successful on grazed sites and lesser trefoil is not common on pasture.

Acknowledgement

This review was compiled as part of the Organic Weed Management Project, OF 0315, funded by DEFRA.

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