

The biology and non-chemical control of Field Madder (*Sherardia arvensis* L.)

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Field Madder

(Herb sherard, madderlen, spurwort)

Sherardia arvensis L.

Occurrence

Field madder is a small prostrate annual, often plentiful on cultivated land especially on sandy, loamy and calcareous soils (Long, 1938). It is native in arable fields, waste ground, verges, hedgebanks and on rough dry grassland and lawns (Clapham *et al.*, 1987; Stace, 1997). It is common throughout lowland Britain on all types of dry soils but is commonest on chalk grassland. It is not recorded above 1,250 ft in Britain (Salisbury, 1961).

In early surveys of Bedfordshire and Norfolk, field madder was found on all soil types but more usually on lighter loams and chalk (Brenchley, 1913). In a further survey of Bedfordshire and Hertfordshire it was mainly confined to and symptomatic of chalk (Brenchley, 1911). It is considered an indicator of lime and of loam soils (Hanf, 1970).

There is evidence that field madder was a weed of crops in the Bronze Age (Greig, 1988). More recently it was prevalent in clover crops having been introduced as a seed contaminant. It was also common in temporary grass for the same reason (Brenchley, 1920).

It is not the madder used in dyeing, that is *Rubia tinctoria*.

Biology

Field madder flowers from May to October (Long, 1938; Clapham *et al.*, 1987). The average seed number per plant is 438 (Pawlowski *et al.*, 1970).

Around 60% of seeds sown in a 75 mm layer of soil in open cylinders in the field and stirred periodically emerged soon after sowing in September (Roberts, 1986). In the following year most seedlings emerged from April to October with the main peak in June and a smaller one in September. Few seedlings emerged in subsequent years and none after year 4 of the 5-year study.

Persistence and Spread

Field madder seed has a relatively short persistence in cultivated soil (Roberts, 1986).

Field madder seed was a common contaminant in clover and grass seed (Long, 1938). In samples tested in 1960-61, field madder seed was found in around 2% of ryegrass seed samples of English origin and 7-25% of ryegrass samples of Irish origin (Gooch, 1963). It was found at a low level in red clover seed samples and in 4-8% of white clover samples particularly those from New Zealand and Denmark. A low level occurred in some vegetable seed samples too. Over 7% of samples of grass and

clover seeds tested in Denmark in 1966/69 was contaminated with field madder seeds (Olesen & Jensen, 1969). In tests made in 1927/28, 1939 and 1955/57, 11.5, 26.8 and 23.7% of samples respectively were contaminated

Management

Field madder may be controlled by surface cultivation from early spring onwards (Long, 1938). It is important to prevent seeding by hoeing off the weed in crops that permit this (Morse & Palmer, 1925).

Acknowledgement

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

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