The biology and non-chemical control of Petty Spurge (*Euphorbia peplus* L.)

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Petty Spurge
Euphorbia peplus L.

Occurrence
Petty spurge is a small, branched annual plentiful in gardens and arable fields (Long, 1938; Copson & Roberts, 1991). It is native and common throughout Britain (Clapham *et al.*, 1987; Stace, 1997). It appears indifferent to soil type (Guyot *et al.*, 1962). Petty spurge is recorded up to 1,500 ft in the UK (Salisbury, 1961).

The plant exudes a milky sap when damaged. The sap is a severe irritant if applied to the skin (Forsyth, 1968). The oil contained in the seeds is a drastic purgative. Petty spurge has caused poisoning among horses and cattle in Australia and sheep in New Zealand. The active principles in the seeds and foliage are not affected by drying.

Biology
Petty spurge flowers from April (Clapham *et al.*, 1987) or July (Long, 1938) to November. Guyot *et al.* (1962) give the seed number per plant is as 1,000 to 1,200. However, the average number of seeds per plant according to Salisbury (1961) is 260. Petty spurge may be found in fruit for 8 months of the year (Salisbury, 1962).

There was 20% germination of seeds during a 2 month period of moist storage at 5^{o}C (Grime *et al.*, 1981). Seedlings emerge from May to August (Salisbury, 1961). Seed sown in a 75 mm layer of soil in cylinders sunk in the field and stirred periodically, emerged throughout the year except for the winter months but the main flush of emergence was from April to May (Roberts & Boddrell, 1983). Most seedlings emerged in year 1 of the 5-year study with few seedlings emerging in years 2 to 5. Germination occurs at 5 to 10 mm depth in soil (Hanf, 1970).

Persistence and Spread
Seed recovered from house demolitions and archaeological digs and dated at 20, 25, 30 and 100 years old has been reported to germinate (Ødum, 1974).

Seed is dispersed explosively when ripe. The seeds bear an elaiosome in the form of a caruncle that is attractive to ants and this may aid seed dispersal (Pemberton & Irving, 1990).

Management
Surface cultivation in spring and the tillage associated with root crops will keep the weed in check (Long, 1938; Morse & Palmer, 1925). It is important to prevent seeding.

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