

## **The biology and non-chemical control of Ground Elder (*Aegopodium podagraria* L.)**

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### **Ground elder**

(bishop's weed, goat weed goutweed, herb Gerard)

*Aegopodium podagraria* L.

### **Occurrence**

Ground elder is a rhizomatous perennial weed of waste places and cultivated land (Stace, 1997). It was probably introduced into the UK, perhaps as a potherb. In Europe it is a woodland plant (Tutin, 1980). Ground elder was first recorded in 1578 but was possibly present in Roman times and is often found naturalised near human habitation (Salisbury, 1961). It is now considered one of the worst garden weeds and is difficult to eradicate (Copson & Roberts, 1991). Ground elder is recorded up to 1,500 ft in Britain.

A variegated form occurs that is said not to be as invasive as the normal ground elder but in our experience it can spread equally well.

The crushed foliage and rhizomes have a characteristic smell (Salisbury, 1961).

### **Biology**

Ground elder flowers from May to June according to Tutin (1980), May to July according to Clapham *et al.* (1987) and Barker (2001) and from June to August according to Long (1938).

The fresh seeds require a period of cold treatment before they will germinate (Lovett-Doust & Lovett-Doust, 1982). Seed held in moist storage at 5°C germinated completely during a 12-month period (Grime *et al.*, 1981).

It is the leaf stalk not the stem of ground elder that emerges above ground (Chancellor, 1966). All the stems except the flowering shoot remain below ground. Two to five rhizomes form at the base of each tuft of leaves (Salisbury, 1962). The shallow rhizomes have scale leaves at 4 to 5 cm intervals with a bud in each axil that can potentially develop into a branched rhizome (Salisbury, 1961). The far creeping rhizomes are white when young (Clapham *et al.*, 1987). Ground elder overwinters underground as dormant buds on the creeping rhizomes (Hill, 1977).

### **Persistence and Spread**

Ground elder does set seed but vegetative spread is more important (Salisbury, 1962). The rhizomes can grow 15 to 90 cm per year (Salisbury, 1961). Rhizome fragments containing a node will readily develop into new plants. Fragments without a node form a callus that may produce adventitious buds after several months and new shoots develop from these. Fragments buried at 30, 60 and 90 cm deep in a sandy loam soil did not emerge above ground from any depth (Chancellor, 1966). However, the fragments produced shoot and leaf growth 4 to 21 cm long below the soil surface.

## Management

Although not normally an arable weed, ground elder can encroach onto arable land where it should be hoed repeatedly to exhaust the creeping rootstock (Long, 1938; Morse & Palmer, 1925). Any rhizomes turned up during cultivation should be collected and burnt. Liming may reduce the weed, draining may help on wet land, as may cleaning crops like potato. In gardens, the soil should be dug over and the rhizomes removed but a single cultivation will not suffice. On a field scale, a bare fallow with repeated cultivations will be needed.

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