Reproductive biology of gorteria personata

J. Dodd
3. REPRODUCTIVE BIOLOGY OF GORTERIA PERSONATA
(86MO3 & 86MO8; 1418/64 EX)

Loss of dormancy

Burrs that ripened in October and November 1986 were harvested from the soil surface at townsite infestations in Moora and Meckering, at fortnightly intervals during summer 1986/87, and set to germinate immediately after collection.

Results:

![Graph showing seasonal variation in germinability of Gorteria burrs.](image)

Figure 1. Seasonal variation in germinability of Gorteria burrs.

Burrs collected between November and early January were fully dormant. Loss of primary dormancy began in late January and increased during February (Fig 1). Maximum germinability, around 55%, was reached in early March and mid April. The temporary decrease in germinability observed in mid March was possibly induced by a period of unseasonally low air temperatures in late February. After mid April, germinability decreased markedly to below 10% in mid May and around 1% by late June (Fig 1). These reductions illustrate the imposition of secondary dormancy following exposure to low winter temperatures. Throughout the sampling period (November to June), seed viability was consistently high, around 90%.

Conclusions:

Gorteria shows germination characteristics typical of winter annuals, which lose primary dormancy during summer, germinate in autumn when sufficient moisture is available and exhibit cold-induced dormancy in winter.

Even at times of maximum germinability, about 45% of burrs remained dormant. These dormant burrs would carry over into the following year, contributing to the sizeable seed bank of soil-surface burrs, which ensure persistence of this weed.