as a weed in terms of potential distribution and abundance. In terms of control, it appears that unless a reduction in seed per plant is combined with a reduction in plant density, the number of seeds produced per unit area would still be comparatively large. Therefore, if biological control is to be effective in a variety of situations, plants must not only be stressed, as far as insect attack is concerned, but some plant deaths, preferably before seeding commences, are also likely to be necessary.

EFFECT OF TEMPERATURE AND PHOTOPERIOD ON EMEX SPECIES

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Emex australis has been reported in all Australian States except Tasmania. However, more recently, a second species, *E. spinosa*, has also been found which is taller, has smaller seeds and more seeds than *E. australis* (Weiss and Julien 1975). It is thus of interest to know something about the climatic conditions which may affect the distribution of both species and determine whether *E. spinosa* has as much potential for spread as *E. australis*.

Plants of both species were grown at each of five temperature regimes and three photoperiods. These were day-night temperatures of 30/25°C, 25/20°C, 20/15°C, 15/10°C and 10/5°C and 8, 12 and 16 hours of light. Harvests were made at various times during the life cycle of the plants.

Growth in terms of numbers of leaves produced was fastest at 25/20°C with both species. Leaves were also produced faster in the case of *E. spinosa* under the day length of 16 hours but photoperiod had little effect in this regard on *E. australis*.

E. spinosa commenced flowering of the rosette and stem formation before *E. australis*, firstly at 16 hours, then 12 hours and lastly 8 hours. It occurred firstly also at 25/20°C, then followed 20/15°C, 15/10°C, 30/25°C and lastly 10/5°C. A similar pattern emerged approximately 2 weeks later with *E. australis*.