

**Germination of Euphorbia Heterophylla L.  
and its Control in Cowpea (Vigna  
Unguiculata (L) walp).**

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1986.

## **Abstract:**

In order to understand the influence of temperature and light duration on the germination of *Euphorbia heterophylla* L., freshly harvested and pre-chilled seeds of the weed were incubated in an illuminated cooled incubator for varying light and temperature regimes. Their germination was observed daily for 10 days. In another study aimed at identifying the most effective herbicides and herbicide combination and time of application for the control of *E. heterophylla*, separate greenhouse and field trials were conducted. In both the greenhouse, and field trials, two rates each of alachlor, cyanazine, acifluorfen and metobromuron + metolachlor were applied at different times after planting to control the weed in two cowpea (*Vigna unguiculata* (L.) Walp.) cultivars (Ife brown and TVx 3236).

Results of the germination study showed that the optimal conditions for germination of the freshly harvested seeds were 25°C and 8 hours light duration. Prechilling was inhibitory to germination of *E. heterophylla*.

In the greenhouse study, results showed that the pre-emergence application of various herbicides to suppress *E. heterophylla* was more effective than the post-emergence applications. Cyanazine and acifluorfen at both rates and at the various times of application were injurious to cowpea and *E. heterophylla*. Metobromuron + metolachlor at 2.5 kg a.i./ha was well tolerated by cowpea and suppressed the weed effectively when applied pre-emergence; its post-emergence application at 2.5 and 5.0 kg a.i./ha were lethal to cowpea, but suppressed *E. heterophylla*. Alachlor at 2.5 and 5 kg a.i. /ha applied pre and post-emergence were ineffective in the control of *E. heterophylla*.

Results of the field experiment generally confirmed the greenhouse observation. In these series of studies it is clearly demonstrated that the control of *E. heterophylla* in cowpea in the field can be achieved by a pre-emergence application of 3 kg a.i./ha metobromuron + metolachlor.

**Keywords:** *Euphorbia heterophylla* L./ *Vigna unguiculata* (L.) Walp

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