ABSTRACT

In the course of whole investigation “Herbicidal effects of some herbs on in vitro pollen germination of weed *Parthenium hysterophorus* L.” was studied. Herbs are well known for its medicinal and aromatic qualities. Herb plants also have many metabolites which can be used in other purposes as herbicide and weedicide.

In the present study the pollen grain of weed *P. hysterophorus* were treated by aqueous extract of leaves of herbs (*Phyllanthus niruri*, *Croton bonplandianum* and *P. hysterophorus*).

The in vitro pollen germination of *P. hysterophorus* was first studied in sucrose solution (2000, 4000, 5000, 6000, 8000 and 10,000 ppm). The maximum pollen germination was found in 5000, 6000 and 4000 ppm solution.

The pollen germination was further studied with these 5000, 6000 and 4000 ppm solutions along with aqueous extract of plants. The pollen grains were treated by 10% aqueous extract leaves of plants of *P. niruri*, *C. bonplandianum* and *P. hysterophorus*. The in vitro pollen germination was maximum inhibited by the aqueous extract of its own plant *P. hysterophorus*. On the other hand *C. bonplandianum* are more effective than *P. niruri* in the inhibition of pollen germination.

These findings suggest the biological methods for the eradication of weed *P. hysterophorus*, which are not only cost effective but also safe methods. As the weed is well known for its worldwide negative effects, the present work is of much significance for its economical as well as ecological aspects, and is of global interest.