



Mortality and Impact of Potassium Carboxylates on *Parthenium hysterophorus*

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ABSTRACT

The present study was carried out to evaluate the efficiency of soap based herbicide containing potassium laurate, potassium myristate, ammonium laurate and ammonium myristate on weed plants as there is urgency in the search for eco-friendly alternative approaches for the removal of weed. An attempt has been made to develop an eco-friendly economical product for integrated herb management strategy. Weeds were directly treated by potassium laurate, potassium myristate, ammonium laurate and ammonium myristate. Application of ANOVA technique used to check the efficacy of mortality of herbicidal soap solution containing potassium laurate, potassium myristate, ammonium laurate and ammonium myristate. Parthenium weed normally germinates in spring and early summer, produces flowers and seed throughout its short life and dies in late autumn. However, with the right conditions (rain, available moisture, mild soil and air temperatures, Parthenium weed can grow and produce flowers at any time of the year. Parthenium weed can produce large quantities of seed, up to 100,000 per plant. More than 340 million Parthenium weed seeds per hectare can be present in the surface soil, compared to 120,000 native grass seeds. There are many herbicides available for the control of weeds, but all of them have negative impact on the crops as well as in environment.

Highlights

- An Eco-friendly technique for unwanted weed control was investigated.
- Herbicides were found effective at low dose.
- ANOVA technique is effectively used to compare the efficacy of four of these herbicides.
- Potassium carboxylates act as a contact herbicide.
- Ammonium carboxylate decomposes within a short period after application. This is desirable as it allows crops affected by the herbicide to grow on the land in future seasons.

Keywords: *Parthenium hysterophorus*, Potassium laurate, Potassium myristate, Ammonium laurate, Ammonium myristate, Mortality.
