

**INVESTIGATING THE UNDERLINE CAUSES FOR  
POOR CONTROL OF *Erigeron sumatrensis*  
(ALAWANGUPILLU) BY GLYPHOSATE IN THE UVA  
REGION**

A dissertation submitted to the  
Faculty of Animal Science and Export Agriculture  
Uva Wellassa University  
In partial fulfillment of the requirements for the award of  
Bachelor of Science in Tea Technology and Value Addition

By  
**RAMANAYAKA JAYASEKARA MUDIYANSELAGE  
DINUSHA KRISHANTHI RAMANAYAKA**

**Tea Technology and Value Addition Degree Programme  
Faculty of Animal Science and Export Agriculture  
Uva Wellassa University of Sri Lanka**

**2014**

## ABSTRACT

An experiment was conducted to investigate the possible causes for poor control of *Erigeron sumatrensis* (Alawangupillu) by Glyphosate under tea [*Camellia sinensis* (L.) O. Kuntze] in the Uva region at Uva Wellassa University. There are complaints that this weed is poorly controlled by Glyphosate and recent investigation have shown that such poor control is attributed to the dosages of Glyphosate applied, age or growth phase of weeds, and the type of Glyphosate product, under the up country conditions.

This study was therefore conducted to determine the degree of control of Alawangupillu at different growth stages by Glyphosate. Glyphosate @ 3 ml/L and 5ml/L were applied to *E. sumatrensis* at five different growth phases such as 3-5, 6-8, 9-11, 12-14 and >15 leaf stages. Visual injury symptoms were observed and rated at 7, 14 and 21 days after application (DAA). Dead plant percentage, recovery percentage and weed dry weight were recorded at 21 DAA.

Chlorosis, wilting, scorching and leaf fall were occurred at a higher intensity with Glyphosate @5ml/L (2.75 L/ha) than with Glyphosate @ 3ml/L (1.65 L/ha). Chlorosis was more vigorous at 7 and 14 DAA. Chlorosis and wilting were also more prominent at early phase of growth i.e. 3-5, 6-8, 9-11 leaf phases. Scorching and leaf fall were more vigorous at 14 and 21 DAA. Scorching was observed at tender phase such as 9-11 and 12-14 leaf phases. Death percentage was also significantly higher with Glyphosate @ 5 ml/L than with 3ml/L, whereas the recovery of growth with herbicide application was higher with Glyphosate @ 3ml/L than with 5 ml/L. Shoot dry weight also fairly lower with Glyphosate 5 ml/L than 3 ml/L. Death percentage was significantly higher at 9-11, 12-14 and 3-5 leaf stages than other phases. Finally, *E. sumatrensis* was controlled by Glyphosate when it is applied exceeding 5 ml/L (2.75 L/ha). 9-11, 12-14 and 3-5 leaf stages are more susceptible for Glyphosate@ 5ml/L.

Key Words: *Erigeron sumatrensis*, Glyphosate, Problem or Hard-to-kill weeds