## Abstract

## Evaluation of effectiveness of mowing works for integrated tick control method

Chang-Won Jang, Hyunwoo Kim, Gi-Hun Kim, Hee-II Lee
Division of Vectors and Parasitic Diseases, Bureau of Infectious Disease Diagnosis Control, Korea Disease Control and Prevention Agency (KDCA)

Sever Fever with Thrombocytopenia Syndrome (SFTS) in humans is a febrile disease that occurs when a virus belonging to Phenuiviridae is transmitted by tick bites. This disease was first reported in China in 2011 and was first reported in Japan and Korea in 2013. There are about 850 species of ticks worldwide, but 37 species belong to 2 families and 7 genera inhabit Korea. Due to the fact that ticks can inhabit and spread over a wide area, the use of insecticides has its limitations. The aim of this study was to determine whether mowing is an effective method for reducing tick abundance in tick infested areas. Four points ( $10 \mathrm{~m} \times 10 \mathrm{~m}$ ) were selected in the Cheonan area, a region where SFTS cases were reported and where tick infestation was confirmed. An experiment was carried out in parallel with mowing and acaricide treatment from April to October 2019. To evaluate the effectiveness of mowing, Henderson's equation was applied. The control rate of mowing for 12 days was $44.3 \%$, which was confirmed to be lower than the control rate of acaricides ( $91.8 \%$, lasting 19 days). This study found that mowing can complement acaricide treatments as a means of effective tick reduction.

Keywords: Sever Fever with Thrombocytopenia Syndrome (SFTS), Hard Tick, Acaricide, Mowing


Figure 1. Study location: Cheonan, the Republic of korea


Figure 2. Three replication sites of four experiments points


Figure 3. Component of tick collecting Trap

A. Before

B. After

Figure 4. The results of mowing


Figure 5. The number of collected ticks before and after control treatments

