

## タイ国における農地土壌流亡保全技術の開発

## Development of Protection Method on Soil Erosion in Agricultural Area in Thailand

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## 1. Introduction

Soil erosion is a worldwide environmental and agricultural problem. In Thailand, soil erosion is one of major problems in steep agricultural areas. It became economic and environmental issues. Mainly the soil erosion situation in Thailand is from rainfall. The rainfall runoff is the flow of water when the soil is saturated to full capacity. Erosion takes place when the raindrops break the bond between soil particles and displace them. To decrease the impact of the soil erosion from rainfall runoff, development of protection method on soil erosion is necessary. In this research will focus on studying the effect of mulching protection method on soil erosion by using the rainfall simulator to monitor the surface runoff and sediment loss due to surface runoff.

## 2. Materials and Methods

This research will be conducted in Kasetsart University, Kamphaengsean Campus, Nakhonprathom province, Thailand. The effect of the rainfall intensity and mulching method in conserving runoff and trapping sediment were determined by field experiment on land with a steep of 5% slope with 70 mm/hr rainfall intensity which applied by using artificial rainfall. The experiment design for 6 plots, 3 bare soil plots compare with 3 mulched plots. Plots designed for 2×2 m<sup>2</sup> with a rainfall collector. Mulched plot will be covered for 25% of the plot area. Samples will be collected from the rainfall collector for 1 litre by using collecting bottle since the first runoff occurs. After the first runoff occurs, samples will be collected every 10 minutes for 1 hour and after turn off the rainfall simulator 10 minutes.

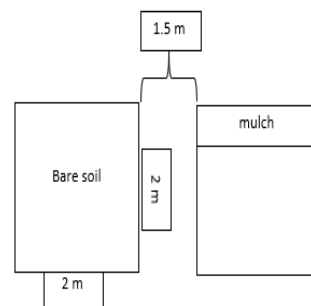


Fig.1 Plot design

## 3. Expected Result

The outcome of this research is focusing on studying rainfall runoff that cause the sediment loss which lead to erosion and studying the effect of mulching on soil erosion protection by comparing between the mulched plot and bare soil plot with artificial rainfall from rainfall simulator. Sediment loss data will be collected and analysed to understand the result between mulched plot and bare soil plot.