國立中興大學水土保持學研究所碩士論文

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鳳山、集集、新化坡地果園流失小區逕流指數之估測

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中 文 摘 要

本研究選用鳳山、集集、新化等地共13個水土流失試驗，採用每年五月至九月的降雨量與逕流量資料，以作物爲單元，分別爲鳳梨、香蕉、柑橘、荔枝、牧草等五類，用最小自乘法，求得各單元不同水土保持處理的逕流量（Y）對降雨量（X）之直線迴歸估計式，$\hat{y} = a + bX$，將各單元之各種處理每次降雨量的總平均$\bar{X}$，代入$\hat{y} = a + bX$中，求得估計逕流量（$\hat{y}_{\bar{x}}$）值。再算各單元之各種處理估計逕流量($\hat{y}_{\bar{x}}$)佔降雨量($\bar{X}$)之百分比，即逕流率。然後將逕流率分級，以逕流指數表示之。

SUMMARY

This study collected thirteen experiments of soil erosion and run-off at Fengshan, Chichi and Hsinhua, but only selecting data of rainfall and run-off during the May-September every year. According to the classification of different cropping systems, it was divided into five units including pineapple, banana, citrus, litchi and grass.

Using the method of least square, the linear regression estimated equation for the amount of run-off on that of rainfall about different soil and water conservation treatments and different cropping systems would be estimated. $\hat{y}=a+bx$. Then, the gross average amount of rainfall ($\bar{x}$) for every time about all different kinds of treatments but different cropping systems was substituded into $\hat{y}=a+bx$, for estimating the amount of estimated run-off ($\hat{y}_{\bar{x}}$).

Next, the rate of run-off would be estimated by computing the rate of the amount of estimated run-off ($\hat{y}_{\bar{x}}$) for all different kinds of treatments and different cropping systems with respect to the gross average amount of rainfall ($\bar{x}$). At least, classify the rate of run-off which was represented by run-off index.