

Study on the Difference of Soil Properties Between High Quality Rice and Non High Quality Rice

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SUMMARY

This trial is conducted at Chi-Shang and I-Li during 1987 (2nd crop) to 1989(1st crop), both locations contained east coast parent alluvial clay loam soil about 1 m in Chi-Shang and 25 cm depth at I-Li, which produced high quality rice and schist alluvial loam about 1m depth which produced non high quality rice.

Two kinds of soil were partly exchanged in experiment plot each other within a 15cm depth and 20m size. It showed that rice yield in east coast parent alluvial soil was higher than that of schist alluvial soil. Chi-Shang plot produced higher rice yield and much volumn weight of brown rice than I-Li no matter what varieties used or cropping time.

The quality grades of rice were evaluated from 1st to 3rd at Chi-Shang, but out of grade at I-Li as 2nd crop 1987 and 1st crop 1989. Volumn weight and intact rice % were affected by not only soil properties but also cropping time and varieties. Rice quality

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of 2nd crop was better than 1st crop at Chi-Shang, and intact rice % of 2nd crop on schist alluvial soil at I-Li below to 4.1% and 2.4%. Rice varieties and planting location affect rice taste, protein content, granular starch and free sugars. Rice at Chi-Shang contained little protein but much granular starch and free sugars than that of I-Li.

Rice in east coast alluvial soil, no matter soil to be exchanged by such a size mentioned above, contained little protein but much granular starch and free sugars than that of schist alluvial soil.