

## AGRICULTURAL ECONOMICS

With the rapid changes of agricultural structure the need to study the economics of different farming systems becomes very urgent in Taiwan. Surveys and experiments on the rotational systems have been made to meet this end. The total input in terms of costs of labor, fertilizers, insecticides, farm machinery, etc. and total output are calculated. The data collected are analyzed statistically to compare the benefit of self-operated farms to that of jointly-operated integrated farms. A survey on the economy of farm operation of low yielding paddy field has been completed. Attention is now focused on the production costs of grape in central Taiwan.

### 1. Investigation on Regional Special Crops or Special Cropping Systems

According to the difference in natural conditions, some special crops or special cropping systems are developed in individual regions. This report is based on the analyses of their economy and potential for development in order to adjust regional farmland utilization and increase farm income. The areas of investigation included Yungching, Erhlin, Fangyuan, Tacheng and Shengkang in Changhua Hsien. The method used was benefit-cost analysis and data were collected by surveying the actual operation of the farmers.

The results are summarized as follows:

- 1) In Erhlin, for job's tears in the 2nd cropping season, since it was the first time for cropping, lack of experience in cultivation and the poor management caused a fall in production. The profit from it was not comparable to that from its competitive crop (the 2nd rice).
- 2) The cropping of the 2nd onions or garlic bulbs in Shengkang, of Golden Muscat (grape) in Erhlin and of rice-water melon-peanut in Tacheng were more profitable than the cropping of competitive crop (the 2nd rice) or cropping system of rice-rice.
- 3) In Fangyuan, the cropping of Liuchengs (sweet orange) was more profitable than that of its competitive crops (asparagus or rice).
- 4) In Yungching, the benefit per hectare for multiple crops of vegetables was high, however, the input was also costly. Therefore, this system had better be used for the small farm with available labor force.
- 5) In Erhlin, buckwheat is cultivated in the winter. Due to its short growth period and low input, the net benefit-cost ratio was 0.61. If the house labor was not included in the cost, this ratio increased up to 1.38. Therefore, it is clear that buckwheat is worthy of developing in Erlin.

## 2. Efficiency of Farm-land Utilization in Taichung Coastal Area

This study was conducted in 1980 to 1982 in the coastal area of Taichung and Changhua. The purpose of this study was to find out efficient land utilization models and better crop patterns. Both farmer visiting and experimental plots were employed to compare the different locations and natural conditions. It was found out that there was no significant difference on rice yield at different locations in the 1st rice crop season. However, the yield difference in the 2nd rice crop was significant. The more the yield decreased the closer the land neared the sea. Considered about the crop pattern, it was also found out that the better crop pattern for Tacheng, Taan, Fangyuan and Lukang was 2nd watermelon (or autumn peanut)-vegetables (sweet corn)-1st rice, vegetables-vegetables-1st rice, spring peanut (or spring soybean)-vegetables-1st rice, and cauliflower-cauliflower-1st rice, respectively.