

## ABSTRACT

Abstract of thesis submitted to the Graduate School of Maejo University in partial fulfillment of the requirements for the degree of Master of Science in Agricultural Economics

### SUPPLY RESPONSE ANALYSIS OF SORGHUM IN THAILAND

by

WANVIPA KIDDEE

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Chairman: Assistant Professor Banchar Triwittayakul

Department/Faculty: Department of Agricultural Economics and Cooperatives,  
Faculty of Agricultural Business

The objectives of this research were to study general conditions of sorghum production and to analyze supply responses of sorghum in Thailand.

The results revealed that sorghum has been an increasingly important cash crop grown in Nakornsawan, Petburi, Lopburi, and Saraburi provinces. The sorghum marketing structure consisted of 3 purchasing groups: 1) the area merchant brokers and a local merchant brokers 2) agricultural cooperative; and 3) an exporter, respectively.

Sorghum farmer sold the grains to the area merchant brokers, the local merchant brokers and the agricultural cooperative were 21.41, 89.75 and 4.23 percentages respectively.

The area merchant brokers sold the sorghum grain to the feed mill, an exporter, a Bangkok broker, a Tharua district broker in Ayudhaya province and the local merchant at the percentages of 3.43, 4.20, 0.94, 1.26 and 11.59 respectively.

The local merchant brokers bought sorghum grain from farmers 89.75 percent and sold to the feed mill, the Bangkok broker, the Tharua district broker and the exporter at the percentages of 17.88, 12.30, 9.43 and 50.14 respectively.

The agricultural institute which was agricultural cooperative purchased the sorghum grain from farmers and sold to the local merchant brokers and the exporter at the percentages of 3.81 and 0.42, respectively.

The Bangkok broker purchased the sorghum from the area and local merchants brokers and sold to the feed mill and the exporter at the percentages of 2.5 and 10.74 respectively. The Tharua district brokers in Ayudhaya province purchased the sorghum from the area brokers and local merchants broker and sold to the exporter at the percentage of 10.69.

The results of the supply response analysis of sorghum in Thailand, according to the Linear model, revealed that the amount of sorghum supply was related with independent variables i.e. total sorghum growing areas in the previous year ( $A_{t-1}$ ), total price of sorghum obtained by the farmers in the previous year ( $PS_{t-1}$ ), total price of corn received in the previous year ( $PM_{t-1}$ ), and total price of soybean received in the previous year ( $Psp_{t-1}$ ). The sorghum supply had the R Square of 0.749, indicating 74.90 percent of impacts of the factors on the changes in sorghum supply at a significance level of 99 but the remaining 25.10 percent was influenced by other factors not indicated in the equation at a significance level of 95.