

**LEADERSHIP IN DAIRY CATTLE PRODUCTION IN SOUTHERN THAILAND :  
DIMENSIONS IN SOCIO-ECONOMIC STATUS, ADOPTION OF RECOMMENDED  
PRACTICES AND COMMUNICATIONS**

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**ABSTRACT**

Farmers' systems of dairy production, growth-diffusion of dairy cattle raising, leadership in dairy cattle production, and group social networks used for giving and finding farm information were identified in a study which also compared some characteristics between leaders and followers in farm organizations. Muang district, Phatthalung province, was the study where dairy farmers lived close by. As there was a limited population, all ninety-one farmers were interviewed. Dairy cattle farming was first undertaken in 1973 by one farmer and the number of dairy-cattle farmers gradually increased each year. Of the 7 innovators and early adopters, 3 were regarded as opinion leaders, who were higher in socio-economic status than their followers. They received requests for information rather than initiating the dissemination of information. The study implies that opinion leaders acted as consultants for farmers in dairy cattle production. It also implies that such opinion leaders should be involved in information delivery systems and act as catalysts for development, working together with livestock extension officers.

**Key words** : recommendations, cow, farmers opinion leader, social network, farm information

## POST HARVEST STORAGE OF IRWIN MANGO UNDER VARIOUS CONDITIONS

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### ABSTRACT

The commercial ripe fruit of 'Irwin' mango (*Mangifera indica* L.) was stored at 10 °C and 13 °C, with various wrapping materials to determine suitable storage temperature and suitable wrapping materials for longer shelf life. The rate of respiration and ethylene evolution, and weight loss were significantly decreased at 10 °C storage as compared with at 13 °C. The lowest rate of respiration and ethylene evolution were observed for the fruit stored in the ethylene absorbing bag while the highest respiration rate was found for the fruit in the polyethylene treatment under both temperatures. The highest weight loss was found in the unwrapped fruit while those wrapped in the ethylene absorbing bag resulted in the lowest. No chilling injury symptoms were observed even under 10 °C storage. Shelf life and firmness of the fruit in all treatments were better at 10 °C than at 13 °C. The longest shelf-life was attained by the fruit wrapped in ethylene absorbing bag while the unwrapped control fruit had the shortest shelf life. The shelf life of net and polyethylene plastic bag wrapped fruit was almost the same. Skin firmness and weight loss were highly correlated with the total shelf life and affected by the wrapping treatments and storage temperatures. Significant differences were not observed among the treatments with respect to pH and Brix % of the fruit. The present study indicated that wrapping with the ethylene absorbing bag resulted in significant effectiveness in respiratory rate, ethylene evolution rate and weight loss compared with the other treatments and the fruit showed a better appearance without spots and rot during the 23 days storage period at either 10 °C and 13 °C.

**Key words:** chilling injury, temperature effect, ethylene evolution, respiration rate, shelf- life, wrapping material

**EFFECTS OF CUTTING RICE AND WEEDS ON SUBSEQUENT WEED GROWTH  
AND GRAIN YIELD OF DRY DIRECT-SEEDED RICE**

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**ABSTRACT**

The experiment was conducted in a farmer's field in Muang Yai village, Khon Kaen province in 2004-2005. This study sought to investigate the effect of rice and weed cutting on subsequent weed growth and grain yield of dry direct-seeded rice. Rice and weed cutting at 30, 45 and 60 days after seeding (DAS) reduced weed dry weight as compared with that from the uncut-unweeded plot. The dominant weed species before cutting were *Ischaemum rugosum* and *Panicum repense*. Early cutting of *I. rugosum* at 30 DAS reduced weed dry weight, while delaying cutting at 60 DAS increased weed dry weight. On the other hand, early cutting of *P. repense* at 30 DAS increased weed dry weight, while delayed cutting at 60 DAS decreased weed dry weight. Grain yields following cutting were higher than from the uncut-unweeded plot due to greater panicle number and more filled grains per panicle. Therefore, rice and weed cutting at the vegetative growth stage is an alternative method of weed control in dry direct-seeded rice without using post emergence herbicide.

**Key words :** cutting date, regrowth, grain production.

## **APPROACHES FOR IMPROVING THE FIELD WEATHERING RESISTANCE OF SOYBEAN IN THE TROPICS**

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### **ABSTRACT**

Soybean is originally from the northern regions of China and grows favorably in temperate environments. As the world demand for vegetable oil and protein increased continually, soybean production spread rapidly into the warm and humid production areas, and more recently into the tropical regions. Following this expansion, climatic conditions have become the major factors affecting the soybean seed quality and production in subtropical and tropical regions. The process of deterioration in soybean seed quality which occurs between the stages of physiological maturity and harvesting is referred to as field weathering. The field weathering problem has been recognized and studied for half century. This paper presents a review of the studies on the field weathering of soybean and analyzes the future researches to solve the field weathering problem of soybean. The definition, causes, damage, testing methods of field weathering, and the development of molecular biological studies on soybean will be summarized in this paper. By our analysis, the damage of field weathering could be reduced by advanced breeding and intensive field management. Screening of more genetic resources with field weathering resistance for breeding programs is an essential way to improve the field weathering resistance of new soybean varieties. However, there is a potential way to solve the field weathering problems by identifying DNA markers associated with putative QTL for field weathering resistance, and making further application of the markers for the soybean breeding programs.

**Key words:** *Glycine max* (L.) Merr., physiological maturity, seed quality, seed deterioration, quantitative trait loci

**LOAN USE AND REPAYMENT BY FARMER CREDITORS OF THE  
BANK FOR AGRICULTURE AND AGRICULTURAL COOPERATIVES (BAAC)  
IN SOUTHERN THAILAND**

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**ABSTRACT**

The behavior of 226 farmer clientele in the use of loans and the loan repayment factors affecting repayment to the Bank of Agriculture and Agricultural Cooperatives (BAAC) and its associated problems were investigated. Most farmers received adequate loans which they used in accordance with what they planned. The loan could contribute to improving the standard of living of credit users. Most had a good image of the BAAC and accessed the information on BAAC through mass media sources (radio and television) rather than personal sources such as friends or relatives. Farm size, total family income, and savings were positively correlated with the loan repayment. Savings and farm size were found to be the determinant in loan repayment. With regards to associated problems, economic recession, over burden, and natural disasters were mentioned by most farmers.

**Key words** : access, agricultural credit, peasant

**SUSTAINABLE VALUE CREATION IN THE PHILIPPINE HIGHER AGRICULTURE  
EDUCATION SECTOR**

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**ABSTRACT**

The study seeks to operationalize the sustainability framework proposed by Hart and Milstein (2003) within the context of Philippine higher education in general; and higher agriculture education in particular. Managing cost and reducing risk is one of four performance outcomes. In a 1998 education sector study on the Philippines that was conducted by the World Bank and the Asian Development Bank, priorities for action were identified towards reforming higher education in the country. Clearly, the education sector reforms that need to be carried out in Philippine higher education are aligned with sustainability principles. The huge budget deficit of the Philippine government and its ballooning public debt justifies immediate action. Moreover, although only about 20% of the higher education institutions are state-operated, a bulk of the enrollees in these institutions is in agriculture and fishery. Johnson (2000) observed that a large proportion of graduates do not enter professions in fields in which they have been trained.

Among the four sets of drivers that are related to sustainability, this preliminary study showed that emerging technologies significantly influenced all the performance dimensions of higher agricultural educational institutions. This particular driver is a capital-intensive input that is associated with emerging and modern agricultural technologies used in commercial farms and agro-industries. Together with two other sustainability drivers (e.g. challenges of civil society members and the growing population), emerging technologies were found to be significantly influencing the performance dimension of acquiring and developing capabilities. This causal relationship was observed for both higher agriculture educational institutions, and higher educational institutions in general. Respondents felt that educational institutions need to work harder to innovatively address an unserved market- the higher education needs of the poor. They represent the fastest growing segment of the population in the country.

**Key words:** reforms and sustainability, organizational sustainability drivers and performance