Pesticide use on fruit plantations in Thailand: perspectives on the implementation of the GAP standard

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Introduction: The "Good agricultural practices" (GAP) program being implemented in Thailand promotes safe production of quality fruits and vegetables by reducing the use of pesticides. One of its main achievements has been the broad certification of farmers, which allows them to export their produce by accessing new international markets. Despite the extensive granting of GAP licenses, some studies have pointed out that farmers do not gain any economic rewards by being certified and that there is still an incentive to use large amounts of pesticide (Amekawa, 2013; Montano *et al.*, 2015). This study compares the prices farmers obtain by selling their produce to see if GAP farmers have economic advantage (or not) over non-GAP farmers. It also examines the underlying causes of such phenomena.

Materials and Methods: We randomly selected farmers, of which 11 cultivated mangosteen and 10 durian in Chantaburi, Rayong or Trat Provinces in Thailand. We also selected 28 asparagus farmers in Ratchaburi Province. The farmers provided information about the prices they obtained by trading companies or other buyers during one particular harvest season. In the case of asparagus, the farmers provided the receipts of each transaction. Farmers were also asked if they were a part of the GAP program or not, if their produce reached international markets and if so, which ones.

In order to discuss the practices of trading companies and their relation with farmers, we conducted an interview with a representative of one Japanese company in charge of buying and exporting fruits and vegetables from Thailand.

Results and Discussion: Table 1 shows that for the case of Mangosteen and Durian the prices farmers obtained were similar between the GAP and the non-GAP group. Most of the GAP farmers reported that their fruit was exported to China (85%), while non-GAP farmers reported that their produce reached mostly local markets (78%).

Table 1. Fruit prices June-July 2014

	non-GAP	GAP	Average
Mangosteen	183.3±13.9[1]	194.0±11.7	188.2±9.0
Durian	60.4±11.6	65.7±5.8	62.0±6.0

[1] Prices in THB/kg and standard error.

In the case of asparagus, a more complex situation was found (Table 2). It can be seen that asparagus was reported to be mainly sold in domestic markets by non-GAP farmers (88% said their produce reached Bangkok and Ratchaburi and the remaining 12% said it reached Taiwan) or exported to either Taiwan or Japan by GAP farmers.

The prices obtained by non-GAP farmers did not differ with those of GAP farmers

whose produce was exported to Taiwan, although they were lower compared to the prices assigned to the GAP farmers whose produce was exported to Japan.

Table 2. Asparagus prices during the period from May to June 2013

Category[1]	non-GAP mainly domestic market	GAP export to Taiwan	GAP export to Japan
I	73.9±0.80[2]	75.7±1.31	100[3]
II	49.1±0.50	51.4±1.21	85
II	47.0±1.65	51.4±1.21	70

[1]Categories are based on size and appearance of asparagus (Cat. I include the biggest and better looking asparagus stems).

[2]Prices in THB/kg and standard error. [3] Fixed price.

The results suggest that the GAP certification by itself did not guarantee farmers to obtain better asparagus prices but only to establish contact with trading companies that may do so, in this case, with the company that exports to Japan.

When asked, the representative of this company explained that based on the experience they have working with fruit and vegetable producers in Thailand, the higher prices they offer to the farmers are based on the requirement of high standards for size and aesthetic qualities of the produce. Most importantly, he stated that such standards were privately established (from the own company) and reflected the demand of Japanese consumers and therefore had no relation with the public GAP program.

Another important point is to realize that although the prices offered by this company to the farmers are higher, so are the costs of inputs and labor required to produce crops that comply with the requirements. This may be the reason why no economic rewards were reported in previous studies that examined GAP farmers.

The officer added that the company also kept farmer's pesticide use monitored through residue testing of the crops before they reach the markets by means of its own laboratory, implying that such controls were stricter than of the GAP program. Farmers that were found to be overusing pesticides were required to be tested thoroughly every year, explained the officer.

The GAP program is not being adequately implemented in Thailand and this suggests that pesticide use may be overused. Despite this private companies may have been promoting the implementation of the standard by providing the economic incentives to interest farmers about the program (despite that at the present they may not be high enough to improve farmers' situation) and aiding by monitoring pesticide residues. Therefore they should be taken into account when assessing the performance of the GAP program.

References

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