

# Factor Affecting to Purchasing Behavior of Agricultural Chemical of Farmers in Chanthaburi Province

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**Abstract:-** The objectives of this research: 1) to study the demographic factors affecting agricultural chemical purchasing decisions of farmers in Chanthaburi province; and 2) to study the marketing mix (4P's) affects farmers' purchasing decisions for agricultural chemicals in Chanthaburi province. This research is quantitative research. The population was farmers who purchased agricultural which the exact number is unknown. A sample of 246 people was used by specific random sampling. By using questionnaires as a tool to collect data statistics used in the analysis These are frequency, percentage, mean and standard deviation. and the statistics used in the test multiple Linear regression analysis.

**Major Findings:** 1) most of the respondents were male, aged between 31 and 40 years, education below a bachelor's degree with a small agricultural area; and 2) The factors that had an effect on agricultural chemicals purchasing decision of farmers consisted of marketing promotion, price, and product aspect, consecutively at the statistical significance level of 0.05.

**Keywords:-** Qian Lei; Thanrada Chunthanom and Purchasing

## I. INTRODUCTION

The agricultural sector is important in the development of the country's economy. It is considered a source of food security and products are also exported abroad, generating income for Thailand (Bureau of Research) Still? Agricultural Economics, 2020) Thailand is an agricultural country. Most of the population works in agriculture. The principle is long-term and continuous cultivation of crops, causing nutrients in the soil to be lost because they are absorbed by plants and attached to the produce. (Information, Office of Agricultural Economics 2018) Increased cultivated area has resulted in farmers' demand for agricultural chemicals, both fertilizer and pesticides. Crops are increasing in many economic crops with both domestic and international markets. (Kasikorn Research Center, 2017) Chanthaburi province is a province in the central region with a population of 846,334 people (from registration by National Statistical Office for the year 2019 and had an average household income of 20,440.57 baht in 2017). Agriculture is the main income of the province.

Chanthaburi, has the most agriculture. (Agricultural holdings in Chanthaburi Province, separated by district, 2017) Chanthaburi Province has important natural water sources

flowing through many streams, suitable for cultivation. Most of the area is cultivated with rice and generates income for Chanthaburi Province. Therefore, agrochemicals are selected to meet the different needs in each area and agricultural products (Chanthaburi Provincial Agricultural and Cooperatives Office, 2022). Agrochemicals that farmers can use are Fertilizers, pesticides, plant chemicals Mold control, plant disease control chemicals, fumigants, rodenticides, nematodes, bioorganic pesticides, snail and snail killers, and growth regulators. growth of plants to prevent nut damage, attract, nourish or control plant and animal pests during cultivation as well as storage (Pachareeporn Tonpho, 2017). Factors in plant ingredients Farmers' Market Mix has 4 dimensions, namely: Products have standards, have been certified as a well-known brand, have a clear indication of the date of production, and have received approval. Insurance Quality, price must have a value appropriate to the price. There is credit to farmers which is linked to the distribution channel. There is a parking space and a location. It's a shop. Convenient to travel. There is a telephone ordering service and product delivery service. Finally, to reach consumers, there must be an incentive, which leads to the dimension of marketing promotion. There are distributors through advertising and various media. There are signs with promotional activities, discounts, exchanges, giveaways, and friendliness to farmers (Thanadet Kangsawadi, 2021). The aforementioned dimensions of the marketing mix will lead to the behavior of farmers. Consumers who are farmers who use agricultural products in Chanthaburi Province by the behavior of the farmers The consumer model used in the study focuses on the actions of individuals regarding the consumer decision process to satisfy their needs. Classified according to internal behavior and external behavior are the factors that affect the decision-making process in purchasing. Overall, what is studied is the influence that arises from the marketing mix factors that lead to the behavior of the entrepreneurs. (Solomon, 2018)

The researchers were interested in studying the factors affecting the decision to purchase agricultural chemicals in Chanthaburi. Chanthaburi Province is classified according to demographic factors and marketing mix (4P's) to benefit those interested in doing the chemical business as a guideline for improving marketing to produce products that meet the needs of farmer groups. and know the decision-making process of farmers as well as study the relationship between variables in research aimed at answering the question of surveying consumer behavior using the system analysis Quantitative in creating a statistical framework and qualitative in using case studies from relevant literature. The objective is to respond effectively to the

benefits of doing business and planning marketing for farmers in Chanthaburi Province.

➤ *Research Objective*

- To study the demographic factors affecting agricultural chemical purchasing decisions of farmers in Chanthaburi province

➤ *To study the marketing mix (4P's) affects farmers' purchasing decisions for agricultural chemicals in Chanthaburi province.*

➤ *Research Framework*

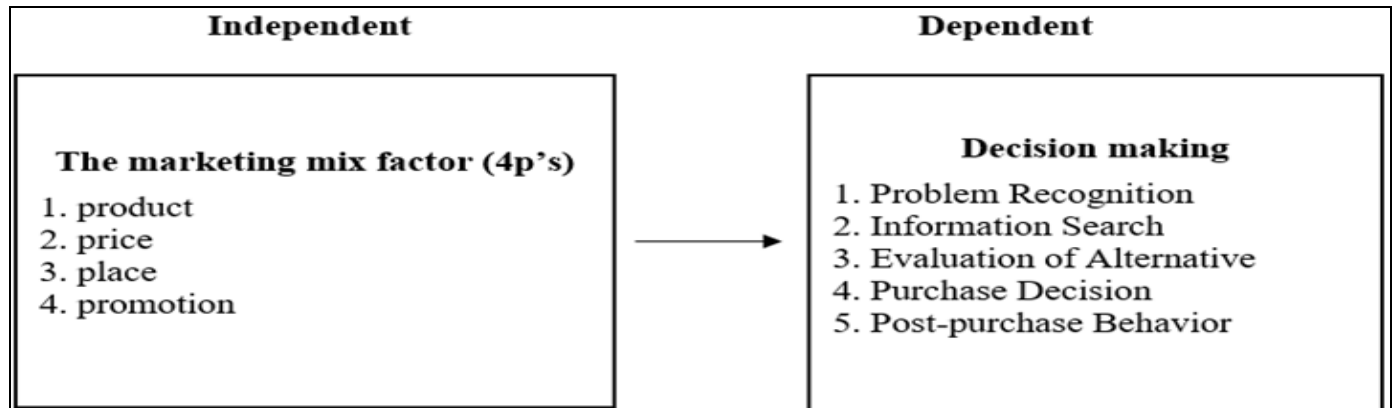


Fig 1 Research Framework

## II. LITERATURE REVIEW

➤ *Theory of Personal Factors*

Kotler et al., (2018) defined demographic characteristics. (Demographic) divided into 5 questions to be solved

- Gender is a specific characteristic that is inherent to each person since birth. They are divided into females and males, which have differences in physical characteristics, thoughts, attitudes, behaviors, perceptions, values, and communication.
- Age (Age) is an indicator of the identity of each person, indicating maturity. And the ability to recognize and understand different experiences is influenced by past perceptions that are more or less different. People with different backgrounds affect emotions, understanding, perception, thought processes, and different decisions
- Education level has an effect on a person's attitude, thoughts, and beliefs. Values, ideology, choosing to receive information, understanding in detail and clearly will have different behavior. People who have received a higher education will have more skills in perception and Thinking results in a good understanding of things and believing in things that are reasonable.
- Occupation (Occupation) is an indicator of the characteristics and abilities of each person, including the period of exposure to news. You can learn more than your own occupation, such as gathering with people who work in other occupations. It will make you have knowledge and interest. More broadly, different careers result in different values and perceptions.
- Income (Income) is an indicator of the spending potential of each person. People with low economic and social status, low income will have the potential to spend goods, or various services, as well as being able to receive information well and will seek benefits to make themselves earn more income. Restrictions on learning and experience affect those who have education. Oh, because I have a low economic status.

As people age, their life cycle varies, and consumer behavior also changes accordingly. Single young people are more likely to spend money on education, leisure and entertainment, and purchasing high-end consumer goods. For example, the emergence of the "new poor" in modern cities They are representatives of young people who are single, high paying, high spending, and have no savings. They are advocates of a new life, daring to try new products, but not too concerned about prices. The elderly are the main consumer group of various health products. Middle aged people are more inclined to spend money on children. For young people who have just started a family, durable consumer goods such as houses and household appliances will account for a large proportion of expenses.

There are also gender differences in purchasing decisions. Due to the different ways of thinking among men, their logical thinking is strong, resulting in a short time to make purchase decisions. When selecting products, they are rough and quick, generally focusing on the quality and practical utility of the products, and rarely paying attention to the appearance and packaging of the products. Women have strong visual thinking abilities and profound emotional experiences. Therefore, they take a relatively long time to make purchasing decisions, carefully select products, and pay attention to the style, appearance, packaging, and other aspects of the products.

Professional needs will lead to corresponding purchasing behavior. A blue collar worker would purchase work clothes, work shoes, etc. The senior manager of the 8 company will purchase expensive suits, go to high-end clubs for consumption, and so on. A person's financial situation can greatly affect their choice of products. A person with a high income and a large amount of savings has the ability to purchase products with higher prices, and their impulse to shop will also greatly increase. On the contrary, consider cheap goods and tend to be cautious and conservative when shopping.

### ➤ *Theory of the Marketing Mix Factor*

Kotler & Armstrong (2018) defined the marketing mix as a marketing tool that is used to achieve marketing objectives. The marketing mix (4P's) is Marketing triggers or stimuli that affect the purchasing decision process include:

- Products refer to products that manufacturers sell to make consumers interested and satisfied for use in the production process of various products or in conducting business, such as a variety of products. Products, brand names, quality, warranties and returns, or concrete characteristics of the product such as shape and form. The shape of containers, packaging and product packaging and labels.
- Price means the amount of money that the buyer Consumers are willing to pay for products or services to meet their needs as a recognition of benefits from using the products or services. Manufacturers must choose strategies that are appropriate for setting the prices of products and services.
- Distribution channels (Place) gives importance to distribution channels that cover the area and reach the target consumer group well in order to meet the needs. Relying on customer demands with an eye for profit is considered a marketing strategy in making products available for sale and being widely distributed, making it easier for consumers to Consumers can see the product more easily, it is more convenient to buy and it affects the perception of the image and character. Product characteristics or distribution channels
- Marketing promotion (Promotion) refers to a tool used for communication between manufacturers and consumers to create emotional trust among consumers in operations. In this second level of marketing strategy, manufacturers will have a higher market share in the sentimental value of consumers in competing markets. It is an activity to communicate with consumers in the target market to create satisfaction. Do you know how to motivate or reinforce? Remind the target market of the need for the brand.

### ➤ *Theory of Decision Making*

Consumer purchasing decision refers to the process in which consumers carefully evaluate the attributes of a product, brand, or service and make choices to purchase products that meet a specific need. The broad consumer purchasing decision refers to the process of analyzing, evaluating, selecting, and implementing the best purchasing plan among two or more available purchasing plans, as well as post purchase evaluation, under the control of a certain purchasing motivation, in order to meet a certain demand. It is a systematic decision-making process that includes the determination of requirements, the formation of purchasing motivation, the selection and implementation of purchasing plans, and post purchase evaluation.

Song Zhijie,Tang Xiaoli. (2016)Based on the cue theory and cognitive decision-making principle, this paper uses eye movement experiment method to explore the mechanism of two important cues in Online shopping: price and evaluation influencing consumers' purchase decisions. The research shows that consumers will use price and evaluation to evaluate products and follow the cognitive decision-making principle of Bounded rationality; But consumers pay more attention to the reference value of evaluation clues, and when the two clues have the same

valence, consumers will adopt deeper cognitive processing methods.

Hu man (2008) Philip Kotler proposed a simple consumer purchasing behavior model in his book "Marketing Management (Asia)". In this model, Kotler believes that consumer behavior patterns typically consist of three parts. The first part includes internal marketing stimuli and external environmental stimuli, which work together to attract consumers' attention. The second part includes two intermediary factors: the buyer's characteristics and the buyer's decision-making process, which handle the stimuli received. The third part is the result of processing, which refers to the actual externalization of consumer purchasing behavior, including product brand selection and purchase timing.

The decision-making process section, which is the core focus of the EKB model, explains the five stages of the purchase decision-making process as follows:

- *Problem cognition*

The cognition of problems is the first stage of the decision-making process. When consumers perceive a gap between their ideal and actual state, they will generate problem cognition, which mainly comes from two aspects: first, internal motivation, such as physiological needs; The second is external stimuli, such as advertising messages, that awaken consumers' perceived needs.

- *Information seeking*

After consumers have a problem perception, they start searching for relevant information. When an individual's existing memory and signals are sufficient to solve the problem, they can proceed to the next stage of action; Otherwise, it is necessary to search the outside world. The channels for information sources have three directions: public sources, commercial sources, and personal sources.

- *Program evaluation*

After consumers understand the situation related to mobile phones, they evaluate various possible solutions, including the following four parts:

- ✓ *Evaluation Criteria:*

The factors or standards used by consumers to evaluate products, usually represented by product attributes or specifications, and the selection of evaluation criteria is influenced by personal motivation, lifestyle, and personality.

- ✓ *Belief:*

Consumers evaluate each solution or brand based on various evaluation criteria.

- ✓ *Attitude:*

Provide consumers with a comprehensive evaluation of various solutions or brands based on various evaluation criteria, resulting in a consistent level of preference for each solution or brand.

- ✓ *Willingness:*

Refers to the subjective probability of consumers choosing a specific solution or brand, which is influenced by the normative influence of the reference group or family members.

- *Purchase Selection*

After the evaluation of each Program evaluation, consumers will choose a plan that best solves the original problem and take purchase action. Generally speaking, when consumers have a positive attitude towards a certain product or brand, the higher their willingness to purchase, the greater their chances of choosing the product or brand. However, consumers may also be affected by unexpected unexpected situations.

- *Purchase Results*

After making a choice, consumers who are satisfied with the result will enhance their beliefs and store them in their memory, increasing the chances of future repurchase. If the result is not satisfactory, it will lead to disappointment and continue to seek information from the outside world to reduce the feeling of imbalance.

➤ *Related Research*

Chayanit Ajachariyapotha and Patcharathaya Jarutthawiphonnukul (2017) Research on factors affecting farmers' decision to purchase chemical fertilizers. In the central region of Thailand, the research results found that the marketing mix factors, price, distribution channel, and marketing promotion Affects cutting Farmer's decision to purchase chemical fertilizer in central Thailand significantly Statistically at the level of 0.05, the product side has no effect on cutting. Farmer's decision to purchase chemical fertilizer in central Thailand Rewat Ta Phinijpaitoon (2017) Research on factors affecting the purchase of agricultural chemicals by farmers in Makham District. Estimate the results of the analysis. It was also found that the purchasing decision process and the level of agricultural chemical purchasing decisions of farmers Purchasing decisions have the greatest impact on the level of purchase selection. Second is post-purchase behavior. Evaluation of alternatives and seeking information By the marketing mix and the level of purchasing decisions, it was found that price has an effect on the level of purchasing decisions. The most selection Followed by the management side, distribution side, and marketing promotion side. And Jarumas Saengsaeng and Kanyarat Mingkratok (2018) research on the study of factors related to cutting behavior. Decided to buy chemical fertilizers of farmers in Kan Lueang Subdistrict, Nang Rong District, Buriram Province. The results of the research found that most of the people who responded to the questionnaire were male, with a higher age. Aged 51 years and over, have a primary education level (Grade 1 - Grade 6) and have an average monthly income of less than 10,000 baht. Most live in detached houses, which provide the importance of the marketing mix in products is the most important, followed by sales promotion and distribution channels. AndChaiyasit Phuengsaengchan, Phahon Sakdikathat, Boonchu Damrongsakdikiri, Puttisan Kreakham, Saisakul Fongmoon and Paphob Jirat (2020) Research on Marketing Mix in Marketing Dang Decide to buy chemicals agricultural ingredients of strawberry farmers in Bo Kaeo Subdistrict, Samoeng District, Chiang Mai Province. The results of the research found that farmers give importance to agricultural ingredients. The market is the most marketable in product, followed by price, distribution channel, and marketing promotion.

### III. RESEARCH METHODOLOGY

The researchers conducted the research according to the research process and quantitative research methods. This is a descriptive study by using questionnaires to collect information from population samples. The research mainly adopts the methods of literature research, interview and questionnaire.

Literature research method mainly collects scholars' previous research on this issue through the school library and network system. On this basis, the supporting data for this study are extracted. At the same time, try to avoid repeated research in the selection of research topics and research angles. On the basis of literature research, this paper puts forward the corresponding research hypotheses and constructs the research model.

The interview method is mainly carried out in the pre-investigation stage. Through in-depth interviews with the respondents, understand the shortcomings of the original questionnaire, and modify individual items in the questionnaire.

➤ *Population*

The population studied in this study were farmers who purchasing agricultural chemical in Chanthaburi province which the exact number is unknown.

➤ *Sample Size*

The sample group in the study was 246 Sample sizes were determined from Taro Yamane's formula (1973) at 95% confidence level and tolerances of 5% sample selection were accepted 246 total.

➤ *Research Tools*

Research object: after the questionnaire is designed, in order to ensure the reliability and validity of the questionnaire, this study first conducted a pre-test on a small part of the sample population. At the same time, we conducted in-depth interviews with 100 consumers who had experience in agricultural chemical purchase, avoided unclear expression and ambiguous understanding in the questionnaire as far as possible, deleted the options that are not easy to understand and repeat, and formed a formal questionnaire with small samples.

- The general information of the respondents is as follows: consumers and friends who purchased smart phones sent out 400 questionnaires, and a total of 246 valid questionnaires were collected after inspection
- The respondents' opinions are as follows: the first determinant of the sample population's willingness to buy agricultural chemical should be the function of the product. Compared with ordinary agricultural chemical, consumers are more willing to buy s agricultural chemical and are willing to pay high prices for them because of their powerful functions.

Secondly, from the analysis results, the second influencing factor is the brand. It can be seen that when people buy agricultural chemical, the brand has become a more important factor after the function, especially in the consumer group. Through further analysis of the questionnaire, in the questionnaire, some subjects' reference price index is greater than or equal to 1, and some of them have the same demand for the brand as or even



slightly higher than the latter, This is enough to show that consumers are very keen on brands.

By using the Likert scale, it is divided into five levels, namely 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, 1 = strongly disagree.

#### ➤ Data Collection Methods

This is the data collected by the researchers:

- Basic data were collected from the questionnaire survey of the sampling group.
- Assistant Data Researchers collect data from studies of relevant documents.

Table 1 Score Level

Strongly Agree	means	a score of	5 points
Agree	means	a score of	4 points
Neutral	means	a score of	3 points
Disagree	means	a score of	2 points
Strongly Disagree	means	a score of	1 points

Table 2 Therefore, the Criteria for Interpreting to Classify the Mean into the Following Ranges:

Average score between	4.20–5.00	means	Strongly Agree
Average score between	3.40–4.19	means	Agree
Average score between	2.60–3.39	means	Neutral
Average score between	1.80–2.59	means	Disagree
Average score between	1.00–1.79	means	Strongly Disagree.

## IV. RESULTS

#### ➤ Demographic Factors:

- In terms of gender, it was found that the majority of farmers who answered the questionnaire were male, 139 people, representing 56.50 percent, followed by female, 107 people, representing 43.50 percent, according to the survey.
- In terms of age, it was found that the majority of farmers who responded to the questionnaire were 31-40 years old, 70 people, representing 28.50 percent, followed by 41-50 years old, 59 people, representing 24.00 percent, 20- 30 years old, 51 people, accounting for 20.70 percent, over 50 years old, 38 people, accounting for 10.70 percent. 15.40 and the farmers with the youngest age are under 20 years old, numbering 28 people, accounting for 11.40 percent, respectively.

- Regarding the level of education, it was found that the majority of farmers who responded to the questionnaire were low-level. There were 151 people with more than a bachelor's degree, accounting for 61.40 percent, followed by 71 people with a bachelor's degree, accounting for 28.90 percent, and the least number being 24 people with a bachelor's degree. Percentage 9.80 according to the order
- Amount of agricultural land. It was found that most of the farmers who responded to the questionnaire had a small area (less than 6 rai), the largest number of 129 people, accounting for 52.40 percent. Next is medium size (7-39 rai) with 74 people, accounting for 30.10 percent, and the least is large size (more than 39 rai) with 43 people, accounting for 17.50 percent, respectively.

Table 3 Marketing Mix Factors (4P's)

Marketing mix factors (4P's)	$\bar{x}$	S.D.	View Point
Product	3.77	0.582	agree
Price	3.66	0.580	agree
Place	3.81	0.688	agree
Promotion	3.71	0.734	agree
<b>total</b>	<b>3.75</b>	<b>0.471</b>	agree

From Table 3, the study results found that Farmers' opinions on the overall marketing mix (4P's) were at a high level with a mean and standard deviation ( $\bar{x}$  = 3.75, S.D. = 0.471). When considering each aspect, it was found that the distribution channel It has the highest mean with mean and

standard deviation ( $\bar{x}$  = 3.81, S.D. = 0.688), followed by products. The mean and standard deviation ( $\bar{x}$  = 3.77, S.D. = 0.582), the marketing promotion side, the mean and standard deviation ( $\bar{x}$  = 3.71, S.D. = 0.734), and the price side have the mean and standard deviation. ( $\bar{x}$  = 3.66, S.D. = 0.580)

Table 4 Mean and Standard Deviation of the Purchasing Decision Process.

Purchasing decision	$\bar{X}$	S.D.	viewpoint
Problem recognition	3.99	0.689	agree
Finding information	3.71	0.681	agree
Evaluation of alternatives	3.72	0.685	agree
Making purchasing decisions	3.85	0.547	agree
Behavior after purchasing	3.72	0.680	agree
<b>total</b>	<b>3.80</b>	<b>0.476</b>	agree

From Table 4, the results of the study reveal that the decisions that affect the purchase of agricultural chemicals by farmers as a whole are at a high level. Mean and standard deviation ( $\bar{x} = 3.80$ , S.D. = 0.476). When considering each item, it was found that the problem perception aspect had the highest mean with mean and standard deviation ( $\bar{x} = 3.99$ , S.D. = 0.689). The level of importance is at a high level, followed by the purchasing decision side having a mean and standard deviation ( $\bar{x} = 3.85$ , S.D. = 0.547). The level of importance is at a high level. The evaluation of alternatives has a mean and standard deviation ( $\bar{x} = 3.72$ , S.D. = 0.685). The level of importance is at a high level. The behavior after purchasing has a mean and standard deviation ( $\bar{x} = 3.72$ , S.D. = 0.680). The level of importance is at a high level, with the evaluation of alternatives and the behavior after purchasing having the same average ( $\bar{x} = 3.72$ ) and the lowest is the analysis. The data content has a mean and standard deviation ( $\bar{x} = 3.71$ , S.D. = 0.681). The level of importance is very high.

## V. DISCUSSION

The most of the respondents were female accounted for 63.64 percent and were male accounted for 36.36 percent. Under 30 years old accounted for 45.45 percent and were 30-40 years old accounted for 40.26 percent, 41-50 years old accounted for 10.39 percent, 50-60 years old accounted for 2.86 percent. And more than 60 years for 1.04 percent. The largest number of respondents enterprise staff for 40.8 percent, followed by government or public institution staff, accounting 22.6 percent, individual, accounting for 17.7 percent, Student, accounting for 8.8 percent, workers, accounting for 6.2 percent, other, accounting for 3.9 percent. the respondents were 3000-5000 RMB for 34.5 percent, Followed by income of more than 9000 RMB, accounting for 22.3 percent of the monthly income of 5001-7000 RMB, with monthly income of Less than 3000 RMB, accounting for 19.2 percent, 53 cases with monthly income of Less than 3000 RMB, accounting for 13.8 percent, 7001-9000 RMB with monthly income of 10.1 percent.

Factors in the marketing mix (4P's) include marketing promotion, price, and product. It has a significant effect on farmers' decision to purchase agricultural chemicals with statistical significance at the 0.05 level. Discuss the results in order from highest to lowest as follows.

- Marketing promotion Affects farmers' decision to purchase agricultural chemicals from the analysis. has the highest average value due to marketing promotions There is advertising and public relations. You can get products from the place where they are sold. There is a discount from purchasing the product. There is a service for you. Introduction to agriculture about plant diseases and pests free of charge Consistent with the research work of Thanawat Sriwannathan (2019), research on the expectations of farmers in the Mae Taeng District, Chiang Mai Province, regarding the purchase of chemical fertilizers The results of the research found that Most of the respondents had expectations regarding the factors in the marketing mix: product quality, namely the quality of the product, price aspect, that is, the price is appropriate for the product. The distribution channel side is the reliability of the distributors and the marketing promotion side is the price reduction of the brand name products.
- Price aspect affects farmers' decision to purchase agricultural chemicals because the price of The selling price is standardized. The price is appropriate with the quality of the product. The product has many price levels to choose from. Farmers accept the price of products. Products have clear price tags, consistent with the research of Netchanok Riangwan and Saowanee Sittichot (2021). What are the factors that are important? Farmers' selection of chemical fertilizer stores In Ban Phue District, Udon Thani Province, the research results found that the price factor is the most important factor. that are most important to farmers' selection of chemical fertilizer stores They will choose to buy from the lowest selling price because the products sold in each store are the same. There is no difference. The next factors considered are service factors, sales promotion factors, and location factors.
- Product aspects affect cutting. Farmers' decision to purchase agricultural chemicals is because the products meet standards and the products have properties that meet demand: Products with properties to choose from in a variety of formats. Products are famous and widely known, consistent with Chaiya's research. Rattana Thungsakhon and Patcharathaya Jarutthawiphonnukul (2020) Research on Factors affecting farmers' decision to purchase chemical fertilizers in Pathum Thani Province. The results of the research found that the marketing mix, product and distribution channel factors have an effect on the Decided to purchase chemical fertilizers of rice farmers in Pathum Thani Province with a statistical significance level of 0.05 and a predictive power of 9.6%.

## VI. SUGGESTIONS FOR FURTHER RESEARCH

### ➤ Suggestions

#### • Suggestions for this Research

- ✓ Business operators Agricultural chemical distributors and marketers interested in using research results In order to use it, the marketing strategic plan that affects farmers' purchasing decisions for agricultural chemicals should always be improved in order to ensure that To all farmer groups Including improving product development to meet the needs of a variety of farmers.
- ✓ The data collection period for this time is 1 month, which in some areas is the harvesting season, making the data collection The information is very likely and there should be someone from the questionnaire ready to give advice and further explanation. and help farmers answer questionnaires as well.

#### • Suggestions for Next Research

- ✓ There should be a qualitative research study to know more about farmers' behavior in purchasing agricultural chemicals. and use the research results as information for researchers Business operations Selling agricultural chemicals and those interested in using them.
- ✓ There should be further analysis of other sample groups. Such as the area boundaries in various nearby areas or other provinces and the time period. in order to get Know the results of the analysis. Each area and period has similar or different opinions.

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