FACTORS AFFECTING FARMERS IN DRAGON (*Hylocereus undatus*) Farming

Case in Pertiwi Segara Lestari, Kesiman Kertalangu Village, East Denpasar District, Denpasar City

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ABSTRACT

Dragon fruit is a horticultural plant that has a fairly complete nutritional content for the human body. Dragon fruit plants besides being very good for human health, also have very good sales prospects, so they are easy to market and will have good selling points for farmers. This study aims to find out what factors influence farmers on dragon fruit farming in Pertiwi Segara Lestari, Kesiman Kertalangu Village, East Denpasar District, Denpasar City and to find out the obstacles faced in cultivating dragon fruit in Pertiwi Segara Lestari, Kesiman Village Kertalangu, East Denpasar District, Denpasar City. The research location was chosenpurposively. The total population is 25 farmers, paying attention to the size of the population that is not large, so in this study all elements of the population are designated as respondents. The results in this study are the factors that influence farmers in dragon fruit farming are as follows: (a) Ease of planting dragon fruit. (b) The selling price is very high (c) Market uptake of dragon fruit continues to increase (d) Imported dragon fruit is very expensive so there is no competition. Obstacles faced by farmers in cultivating dragon fruit are constraints in capital in purchasing seeds, fertilizers and concrete poles, as well as constraints during cleaning or sanitation of dragon fruit cultivation.

Keywords: *Dragon Fruit, Cultivation, Marketing*

1. INTRODUCTION

Indonesia is a country that has abundant resources, both human resources and natural resources. The agricultural sector is one of the pillar sectors for the Indonesian economy and is very important because it has a role for the country's economy including as a producer/provider of food, as a provider of employment for the community, as a source of foreign exchange, as formation of capital/investment and as a market for other sector products (Ministry of Agriculture, 2009).

The agricultural sector in Indonesia has five sub-sectors, one of which is the horticultural crops sub-sector. Horticultural crops are the agricultural sector consisting of vegetables, fruits and medicinal plants. Horticultural crops such as fruits play an important role in fulfilling vitamins for the human body. Horticultural plants that have a fairly complete nutritional content for humans such as dragon fruit. Dragon fruit besides being consumed directly can also be used for juice, jam or sweets. Dragon fruit plant or dragon fruit (Hylocereus undatus) is a type of cactus plant originating from Mexico, Central America, and northern South America (Colombia). This plant was originally used as an ornamental plant because of its unique, exotic shape, and the beautiful appearance of flowers and fruit (Hardjadinata, 2010).

Dragon fruit is a newcomer fruit which is quite popular because of its striking color, sweet and fresh sour taste (Kristanto, 2005). Currently, dragon fruit is still found on the market as imported fruit with relatively high prices, especially for areas far from

production centers (Wahyuni, et al. 2013). Dragon fruit plants besides being very good for human health, also have very good sales prospects, so they are easy to market and will have a good selling value for farmers. Ariyanto (2006) states that horticultural commodities, especially fruits, have bright prospects in the agricultural sector.

This dragon fruit plant is very attractive with its red fruit color, green scales, so it becomes a promising business opportunity for farmers to develop dragon fruit plants and is very good for cultivation in tropical areas such as Indonesia. The cultivation of dragon fruit plants is still very minimal in Indonesia. This is because not all farmers know about the correct and good cultivation of dragon fruit plants. In Bali for the cultivation of dragon fruit plants, there are already several areas, one of which is in Kesiman Kertalagu Village, East Denpasar District, which has cultivated dragon fruit plants. Based on the background mentioned above, it is deemed necessary to know the factors that influence dragon fruit (Hylocereus undatus) farming and the constraints faced by farmers in Pertiwi Segara Lestari, Kesiman Kertalangu Village, East Denpasar District, Denpasar City.

2. RESEARCH METHODOLOGY

This research was conducted at "Pertiwi Segara Lestari" which is located in Biaung, Kesiman Kertalangu Village, East Denpasar District, Denpasar City. The research location was chosen purposively (Purposively) on the basis of considering that in Kesiman Kertalangu Village, East Denpasar District has developed fruit farming dragon. The total number of farmers who cultivate dragon fruit plants is 25 people. Noting that the existing population is not large, in this study all elements of the population are determined as respondents, which is known by using the census method. The analysis used in this study with a qualitative descriptive method aims to describe a social phenomenon, so after the data is tabulated it is then described in accordance with the facts in the field.

3. RELATED RESEARCH/LITERATURE REVIEW

3.1 Dragon Fruit Overview

The dragon fruit plant is a cactus plant that has fruit and flowers. Dragon fruit has long been known by the ancient Chinese people as a fruit that brings blessings (Idawani, 2012). The Ministry of Agriculture (2009) states that dragon fruit belongs to the cactus plant group or family Cacteceae, subfamily Hylocereanea, and genus Hylocereus. Dragon fruit entered Indonesia for the first time around 2000 which was imported from Thailand. Then in 2001 dragon fruit began to be cultivated in Indonesia (Renasari, 2010).

In addition to fruit flesh, dragon fruit skin also has a content that is beneficial to the body. Dragon fruit skin has a ratio of 30-35% of the weight of the fruit. Dragon fruit peel has the potential as a food ingredient because it contains cyanidin 3-ramnosil glucoside 5-glucoside (saati, 2009). This is in accordance with research conducted by Nurliyana, et al (2010) which stated that 1 mg/ml of red dragon fruit skin was able to inhibit 83.48 ± 1.02% of free radicals, while dragon fruit flesh was only able to inhibit free radicals. free of 27.45 ± 5.03%. In addition, the antioxidant activity of dragon fruit peels is also supported by research by Mitasari (2012) which states that the chloroform extract of red dragon fruit peels has antioxidant activity with an IC50 value of 43.836 µg/mL.

3.2 Farming

Farming is a science that studies how a farmer coordinates and organizes production factors as efficiently as possible so that later it can provide benefits for

farmers (Suratiyah, 2015). The science of farming is a science that contains procedures for farmers to use resources as effectively and efficiently as possible with the aim of getting maximum profits. According to Suratiyah (2015) Factors that greatly influence farming activities are natural factors. Natural factors are divided into two, namely:

1) Soil factor. Land is a very important factor in farming activities because land is a place for plant growth. Land is a special factor of production because land cannot be reproduced and cannot change places.

2) Climate factor. The climate greatly determines the commodities to be cultivated, both livestock and plants. The climate with the type of commodity to be cultivated must be suitable in order to obtain high productivity and good benefits. Climatic factors can also affect the use of technology in farming. The climate in Indonesia, especially during the rainy season, has an influence on the types of plants to be planted, farming techniques, crop rotation patterns, types of pests and types of diseases.

4. RESULTS AND DISCUSSION

Age is one factor that determines a person's work productivity. Generally, farmers who are of productive age tend to be more intensive in working and managing their farms. Farmers who are young and healthy have better physical abilities than older farmers. Based on this, most of the respondent farmers in the research area belong to the productive age group.

For more details regarding the age classification of respondents in the study area can be seen in Table 1.

Table 1 Distribution of Respondents by Age Group

No	Age Group (years)	Number of Respondents	
		Person	**%**
1	**< 15**	-	-
2	**15-64**	**24**	**96,00**
3	**> 64**	**1**	**4,00**
Sub Total		**25**	**100,00**

Source: processed from primary data

Based on Table 1 it states that the age group 15-64 has the most number of respondents, namely 24 people or 96%, while respondents with ages over 64 years are 1 person (4%).

The education level of farmers will also affect the willingness of farmers to accept and try new innovations. Farmers who have higher education usually find it easier to accept new innovations, while farmers with lower education usually just go along with it (Hernanto, 1989). The higher the education level of farmers, in general, the more capable they are of receiving new technological information, and some farmers with low levels of education tend to close themselves off to new things.

The distribution of respondents according to the level of formal education can be seen in table 2.

Table 2 Distribution of Respondents by Level of Formal Education

No	Level of education	Number of Respondents	
		Person	%
1	No school	2	8,00
2	Elementary School	11	44,00
3	Junior high school	2	8,00
4	Senior High School	4	16,00

5	Bachelor	6	24,00
Sub Total		25	100,00

Source: processed from primary data

Based on table 2, it shows that the level of formal education with the highest number of respondents is at the elementary school education level with 11 respondents or (44%). The number of respondents with a formal bachelor's degree education level was 6 people (24%), high school education level with 4 respondents (16%) and the rest were farmer respondents who did not go to school, namely 2 people (8%), junior high school as many as 2 people. The average education level of farmers is at the elementary level (64%).

Factors that affect farmers in dragon fruit farming: (i) Ease of planting dragon fruit (ii) The selling price of dragon fruit is very high (iii) Market demand (iv) Dragon fruit imported products are very expensive so there is no competition.

In detail, the distribution of factors that affect farmers in dragon fruit farming can be seen in table 3 below.

Table 3. Distribution of factors affecting farmers in dragon fruit farming (*Hylocereus undatus)*

No	Factors that influence farmers on dragon fruit farming	Number of Respondents	
		farmer	%
1	Ease of planting dragon fruit	7	28,00
2	Very high selling price	9	36,00
3	Market uptake of dragon fruit continues to increase	7	28,00
4	Imported dragon fruit products are so expensive that there is no competition	2	8,00
Amount		**25**	**100**

Source : processed from primary data

Based on table 3, as many as 9 farmers (36.00%) stated that the selling price of dragon fruit was very high, which made farmers interested in cultivating dragon fruit. As many as 7 farmers (28.00%) said it was easy to grow dragon fruit and 7 other farmers said market uptake of dragon fruit continued to increase. While the remaining 2 farmers (8.00%) stated that imported dragon fruit products were very expensive so there was no competition.

Based on the results of the study, it was stated that as many as 9 farmers or (36%) stated that the selling price of Dragon Fruit was very high, this means that the high price of dragon fruit made farmers enthusiastic about cultivating dragon fruit. The average selling price of dragon fruit ranges from Rp 10,000 during the main harvest, while during the off-season dragon fruit prices reach Rp 20,000- Rp 25,000.

Ease of planting dragon fruit is the expertise of each farmer. Farmers who are used to cultivating dragon fruit and know the new technology, both conveyed by extension agents and obtained from YouTube, will make it very easy for farmers to cultivate dragon fruit.

As many as 7 respondents or 28% also stated that market uptake of dragon fruit continues to increase, this is because many people have started to like and enjoy dragon fruit because this dragon fruit has many benefits. According to (Yunanda 2018) the need for Indonesian Dragon Fruit is quite large and it is not only the local market who wants to taste dragon fruit, and export opportunities are no less large, but this great need has not been able to be met by domestic production. Another factor that influences farmers to cultivate dragon fruit plants is that imported dragon fruit products are very expensive so there is no competition, this makes farmers

even more enthusiastic about cultivating dragon fruit.

The obstacle faced by dragon fruit farmers in Pertiwi Segara Lestari, Kesiman Kertalangu Village, East Denpasar District, Denpasar City is constrained by capital, because dragon fruit cultivation requires quite a lot of capital to purchase seeds, purchase fertilizers and manufacture concrete poles. Besides that, the obstacle faced by dragon fruit farmers is the obstacle when cleaning dragon fruit, because dragon fruit plants have very sharp thorns, and if they are not careful they will injure the skin.

5 CONCLUSION

Based on the results of the research conducted, the following conclusions can be drawn:

1. The factors that affect farmers in dragon fruit farming in Pertiwi Segara Lestari, Kesiman Kertalangu Village, East Denpasar District, Denpasar City are the ease of growing dragon fruit, very high selling prices, market uptake of dragon fruit continues to increase, imported dragon fruit products so expensive that there is no rival.
2. Obstacles faced by dragon fruit farmers in Pertiwi Segara Lestari, Kesiman Kertalangu Village, East Denpasar District, Denpasar City are capital, and constraints on cleaning or sanitation of Dragon Fruit.

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