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APPLICATION OF CONSERVATION METHODS ON CHILLIES FARMING IN KLUNGKUNG REGENCY

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ABSTRACT

The main purpose of this study was to analyze the application of conservation methods in chillies farming. The research was conducted in Subak Kacang Dawa, Klungkung Regency. The research sample is chili farmers who apply conservation using plastic mulch and straw. The data collected were soil moisture, soil temperature, and dry weight of weeds, farm costs and revenues. Soil moisture and dry weight of weeds were analyzed in the laboratory, to determine differences in the application of conservation data were analyzed using t-test, then multiple linear regression was used to analyze the effect of farming and labor costs on chili farmers' income. The results of the study found that the use of plastic mulch was better in maintaining soil moisture and controlling weeds compared to straw mulch. But the use of straw mulch is better in maintaining the stability of soil temperature. The use of plastic mulch costs more than using straw mulch, but the use of plastic mulch requires less labor. Cost has a positive and significant effect on farmers' income, while labor has a negative and significant effect on farmers' income. The income of chili farmers who use plastic mulch is greater than that of farmers who use straw mulch.

Keywords: farming, income, chili, mulch, straw, plastic

I. INTRODUCTION

Population growth in Indonesia has increased from year to year, in 2015 the population of Indonesia has reached 238 million people, with a population growth rate of 1.97% per year, in 2020

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it is estimated to increase to 269 million people. This increase in population will have implications for the need for land resources, both for settlements, education, places of business, or for other purposes. Even though land resources are very limited, clearing forest without careful planning and without paying attention to environmental sustainability is a disaster, so opening new land for non-forestry purposes is impossible.

Because of this, many farmers are forced to cultivate marginal land in the hills to cultivate crops. Even cultivating land in hilly areas will be able to bring no small risk, because if it is not accompanied by soil conservation efforts, it can result in erosion and land damage. The further process of this condition is that the land becomes barren and critical. Most of the land resources in Indonesia are generally dry land which has the potential for agriculture. The dry land potential generally differs from one area to another, depending on the topography, geology, soil and climatic conditions as well as the state of water resources.

The variety of agro-ecosystem conditions in dry land requires a variety of farming system technology, to be applied to suitable land conditions. The only effort that needs to be done is to carry out various assessment activities on the development of conservation-oriented farming patterns, which can represent various agro-ecosystem conditions. With the application of a farming system with a conservation perspective, it is hoped that it will reduce the rate of erosion and the expansion of critical land, as well as rehabilitate existing critical lands.

Horticultural commodities are potential commodities that have high economic value and market demand. The contribution of the horticulture sub-sector to the development of the agricultural sector tends to increase from year to year, which is indicated by an increase in several macro indicators such as gross domestic product (GDP), export volume, employment and farmer exchange rate (NTP) (Balitbangtan Ministry of Agriculture, 2012). The great diversity of horticultural commodities and high economic value create difficulties in choosing priority commodities to be developed.

Starting in 2007, the Directorate General of Horticulture, Ministry of Agriculture implemented horticulture development with the Horticultural Agribusiness Area (KAH) approach, which is designed based on the suitability of regional potential and is multi-commodity, taking into account the suitability and feasibility of agro-ecosystems, linkages between development areas, similarities in economic infrastructure, and orientation increase in income and social welfare. Massive and sustainable application of innovative technology in the development of horticultural areas is necessary to ensure increased production, quality of output, continuity of supply, added value, and competitiveness of horticultural commodities. An effective and efficient dissemination strategy is an important component to ensure accelerated adoption of innovative technologies within the region. Determination of priority or superior commodities in the horticultural agribusiness area development program refers to the criteria of market share, competitive advantage, economic value, distribution of production areas and suitability of agro-ecosystems (Balitbang Agriculture, 2012).

Chili commodities are included in the main or national horticultural commodities in addition to shallots, potatoes, mangoes, mangosteens, oranges, salak, crystal guava, orchids and chrysanthemums. Cayenne pepper is one of the potential horticultural commodities that have high economic value and market demand. Cayenne pepper contains various nutritional content including vitamins A, B, C and several nutrients such as protein, fat, calcium, carbohydrates, phosphorus, iron. In addition to vitamins and nutrients, cayenne pepper also contains secondary metabolites, namely capsaicin, capsanthin, carotenoids, alkaloids, resins and essential oils (Thaib, 2015). Cayenne pepper is a popular agricultural commodity that is needed by almost all levels of society and is widely used as an ingredient in managing various dishes, various industrial raw materials, both the food industry,

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poultry feed and pharmaceuticals (Ramadhani *et al*., 2013) and an appetite enhancer pointed out that dishes without chili are bland and tasteless. In fact, Sumarno (2011) says that chili is like butter for the Dutch. This condition causes many farmers to cultivate cayenne pepper plants so that cayenne pepper commodities are widely circulated in the market and have very fluctuating prices (Farid and Subekti, 2012).

Chili commodity prices are quite interesting to observe, prices in the market are very volatile where at certain times (changes in seasons and holidays) chili prices can spike sharply and at certain times when production is abundant the price drops drastically (Setiadi, 2002). Chili production in Indonesia has not been able to meet the needs of national chili so that chili imports are still needed around 16,000 tons per year, the average national chili production has only reached about 4.35 t/ha, while the potential can reach 10-20 t/ha (Directorate General of Horticultural Production Development, 2010).

The production of cayenne pepper in Indonesia has always increased from 2011 to 2015 namely 594,227 tons, 702,252 tons, 713,502 tons, 800,473 tons, and 869,938 tons (Central Bureau of Statistics and Directorate General of Horticulture, 2016). The increase in production for 5 consecutive years can be caused by an increase in harvested area but the increase is still not able to meet the needs of national chili, causing the high price of cayenne pepper in the market (Riyani, 2019). According to Nugrahapsari (2018), chili commodities are one of the commodities that contribute to inflation because chili prices can soar during the rainy season, holidays and before the new year and chili prices can drop drastically when production is abundant. Production of chili and cayenne pepper in Indonesia in 2011 has reached 1.48 million tons. In terms of the foreign trade balance, Indonesia imports more chili than exports. In 2011, the export volume of chili was recorded at 1.45 thousand tons, while the import volume of chili reached 7.5 thousand tons. This happens because the domestic chili needs have not been fulfilled (Maramis, 2018).

According to Ardian (2017), Bali Province has the potential for planting horticultural commodities such as vegetables. The province of Bali was able to produce 221,620 tons of vegetables in 2014. The production of cayenne pepper in the Province of Bali in 2015 was 28,440 tons. The cayenne pepper production center in Bali Province is in Karangasem Regency (Ardian, 2017) but it is possible that other regencies in Bali Province have the potential to become cayenne pepper production centers in Bali such as Klungkung Regency. Cayenne pepper contributed to the inflation rate in Denpasar city of 1.07% in December 2017 (BPS Province of Bali, 2018). Seeing the potential for developing cayenne pepper areas in Bali Province, it is necessary to have a system of assistance for farmers in cayenne pepper cultivation in Bali Province.

Various problems and obstacles faced in cayenne pepper agribusiness include a) planting that is concentrated in the main growing season so that supply is uneven, unbalanced throughout the year, b) there is no balance between production and market absorption which results in fluctuating prices, c) application of technology cultivation is not optimal, d) the seed industry is not yet developed and quality seeds are cultivated by farmers in limited quantities, e) crop protection is generally not carried out in accordance with integrated pest control, f) capital facilities are not yet available for farmers in the form of farm credit, g) processing The final processing has not developed even though the marketing potential is quite good, h) marketing is usually carried out by middlemen at prices that are often detrimental to farmers, and i) coordination of planting area arrangements according to needs has not been carried out optimally (BPTP Bali, 2016).

Efforts that can be made to overcome these problems and obstacles can be done by applying cultivation technology that is low in chemical input and conservation cultivation technology that can be implemented in Integrated Crop Management (PTT) based on economic and ecological balance to

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achieve a balance between expenditure and income, between the process of natural and technological and have the sustainability of the farming. PTT technology in cayenne pepper cultivation needs to be introduced and implemented directly to cayenne pepper farmers in Bali Province, especially in Klungkung Regency through the empowerment of cayenne pepper farmers with mentoring methods. With this assistance, it is hoped that it will be able to increase the knowledge and attitudes of farmers towards PTT of cayenne pepper, be able to increase the production of cayenne pepper and farmers' income through the application of PTT with the mentoring method.

Based on the results of the chili commodity area research that has been carried out from 2015 to 2017 shows that an increase in productivity has been achieved, but when viewed from the average national chili productivity reaching around 4.35 t/ha, the productivity in the chili area in Bali Province still below the national average, even far lower than the achievable potential of 10-20 t/ha. Therefore, assistance in the development of chili commodity areas in Bali Province still needs to be continued by applying Integrated Crop Management (PTT) technology, seed technology and chili postharvest technology, in the hope of increasing the productivity and income of chili produced by farmers.

Klungkung Regency is one of the largest chili production centers in Bali Province, the chili plant area reaches 236 hectares with a production of 417.20 tons (BPS, 2019). Farmers apply conservation by covering the soil surface (mulch) of chili plants, with plastic or straw with the main aim of increasing the productivity and income of chili farmers, while the direct purpose of using mulch is to inhibit the growth of weeds, protect the soil from erosion, and maintain structure. soil to keep it good, and maintain soil moisture. Mulch Plastic Is a kind of inorganic mulch, hay while the user is an organic mulch is one growing season, while the plastic mulch is classified as inorganic and can be used several times a season, but environmentally friendly because it is made of polyethylene density or low density. Taking into account the description above, it is very necessary to do research on the application of conservation methods in chili farming and its impact on farmers' income in Klungkung Regency.

II. LITERATURE REVIEW

The results of the demonstration plot of chili area development research activities carried out in 2015, stated that farmers' income was greater than that of farmers outside the demonstration plot, both in the districts of Buleleng and Klungkung (Suratmini et al., 2015). Likewise, the demonstration plots conducted in 2016 in Subak Lanyahan and Subak Selangit obtained higher incomes than non-demonstration plots (Rinaldi et al., 2016). The results of chili productivity in the demonstration plot of chili assistance carried out in Klungkung Regency in 2016 were 3.36 tons/ha, which was higher than the productivity of non-demplot chilies, which was 1.53 tons/ha. Likewise, the income level of chili farming per hectare by applying PTT technology is Rp. 25,119,244.51/ha which is greater than the income of chili farming per hectare without applying PTT technology, which only reaches Rp. 2,193,911.64/ha (Rinaldi et al., 2016). Likewise, the results of the 2017 cayenne pepper farming demonstration plot in Subak Pegatepan, Gelgel Village, Klungkung District, Klungkung Regency resulted in higher productivity than chili farming by farmers outside the demonstration plot (Rinaldi, et al., 2017).

III. METHODS

The research location is focused on cayenne pepper farming in Subak Kacang Dawa, Gelgel Village, Klungkung Regency. The basis for this consideration is that the research location is determined by *purposive sampling*, namely farmers carry out conservation of cayenne pepper

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farming using plastic mulch and straw. So that the research sample is farmers who use straw mulch for conservation and farmers who use plastic mulch for farmland conservation. The data collected are soil moisture, soil temperature, dry weight of weeds, costs and farm revenues.

Data Analysis

Soil moisture and dry weight of weeds were analyzed in the laboratory, to determine differences in the application of conservation data were analyzed using t-test. Multiple linear regression analysis was used to analyze the effect of (X_1) farming costs, (X_2) use of labor, and the variable is *dummy* used to analyze the difference in income of farmers using plastic mulch and those using straw mulch, farming using plastic mulch is given a value = 1, farming using straw mulch is given a value of = 0 (Y) on farmers' income.

IV. RESULTS AND DISCUSSION

Application of Conservation on Chili Farming Land

The purpose of conservation carried out on chili farming is to secure and maintain the productivity of farming land in order to achieve optimal production in an unlimited time. Conservation carried out by farmers is by using plastic mulch or straw. The use of mulch is expected to be able to maintain humidity, temperature and suppress weed growth on farm land.

Soil Moisture

Moisture humidity of chili farming land with conservation using straw mulch and plastic, obtained by taking farm soil samples, then analyzed based on the water content of farming soil, namely the percentage of farm soil water content, the difference between wet weight and dry weight of soil divided by total soil weight multiplied by 100 %. Analyzed from tillage, one week old plants, flowering plants, fruiting plants, and after harvesting. The average soil moisture content using straw mulch was 17.22% and the use of plastic mulch was 18.04%. The results of the analysis using the t-test at the 0.05 level of significance test showed a significant difference, the water content of the chili farming soil using straw mulch and plastic, this was indicated by a significance of 0.016 <0.05. It can be explained that the soil moisture content of chili farming using plastic mulch is higher than that of using straw mulch.

The highest soil moisture content was found in plastic mulch with chili conditions planted for one week, which was 21.31%, while the lowest was found in straw mulch with plant conditions after the chilies bore fruit, which was 15.70%. Soil moisture content in the application of conservation using plastic mulch and straw can be seen in Figure 1.

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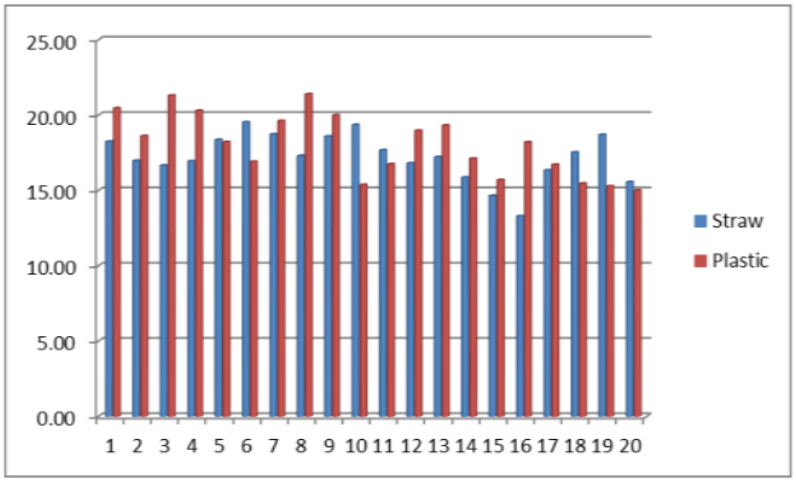

Figure 1
Water content of chili farming land in the application of conservation with mulch straw and plastic

In Figure 1, it can be seen that the use of plastic mulch has a higher moisture content on farmland compared to straw mulch. This means that plastic mulch is stronger at holding the water content of chili farming land, because plastic mulch covers all soil surfaces there is no gap for evaporation, there is a greenhouse effect, water that evaporates from the soil will be retained by plastic mulch so that the relative water content can be maintained, while mulch the straw still leaves a gap for evaporation on the chili farming land. In general, all sunlight that hits the plastic surface, some will be reflected back up, and only a small part is absorbed and transmitted to the ground surface. The light that is reflected back by the surface of the mulch, both plastic and straw into the atmosphere, will affect the top of the plant, while the light that is transmitted below the surface of the mulch will affect the physical condition of the soil, such as maintaining the stability of the soil moisture content. The results of research Darmawan, IGP, et al, (2014) found that the use of mulch can improve soil physical conditions and cayenne pepper production.

Soil Temperature

Conservation of the use of mulch both straw and plastic has the aim of maintaining a stable soil temperature. The average soil temperature on land that uses straw mulch is 30.10^0C higher than that of using plastic mulch on average 29.96^0C. Figure 2 shows that soil temperature using straw mulch and plastic has the same fluctuation, tends to use plastic mulch with a higher soil temperature when compared to farmland that uses straw mulch.

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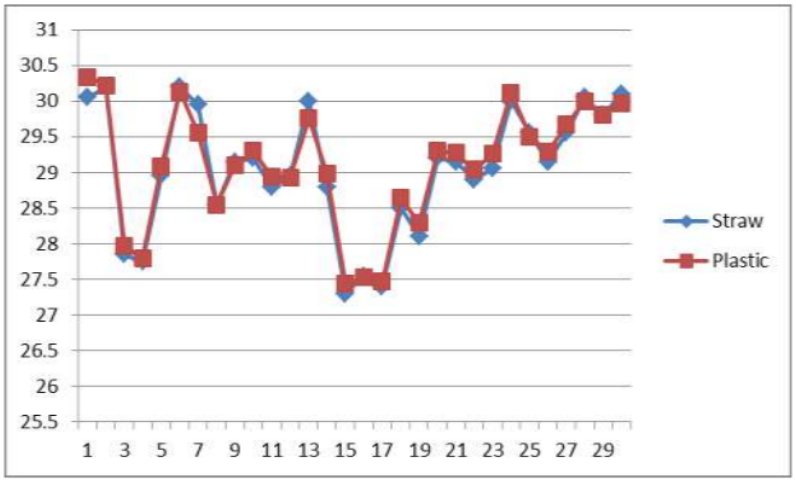

Figure 2
Soil temperature using straw mulch and plastic

However, the results of the analysis using the t-test at the 0.05 level of significance test showed that there was a significant difference in soil temperature on farmland using straw mulch which was higher than that using plastic mulch, this was indicated by a significance value of 0.037 <0.05. Sunlight that hits the surface of the mulch, some will be reflected back up, and only a small part is absorbed and transmitted to the soil surface. Straw mulch will reflect less light upwards and will be transmitted more to the soil surface, so that the average soil temperature of farmland that uses straw mulch is higher than the temperature of farmland that uses plastic, increases soil surface temperature, modifies groundwater balance, soil carbon dioxide, suppress weed growth, and increase the activity of microorganisms. Good root growth will affect the growth of the plant crown. Roots will absorb soil water and nutrients which are then transported through the xylem tissue to the organs that will synthesize them in a process called photosynthesis. The results of photosynthesis (photosynthate) will be translocated throughout the plant tissue through the phloem tissue and will move in two directions, namely up and down towards the utilization area. The upward movement of the substance will help the growth of the canopy (shoots and leaves) so that the plant will be taller and the number of leaves will increase (Kusumasiwi et al., 2011). will be more, as well as the number of chilies that grow also more and more.

Weed Control

One of the conservation goals using mulch, either straw or plastic as ground cover is to control weeds. The results found that an average of 144.46 grams of dry weight of weeds using straw mulch was higher than the average of 25.85 grams of dry weight of weeds using plastic mulch. The results of the analysis by t-test at the 0.05 level of significance test showed a significant difference between the dry weight of weeds using straw mulch and plastic mulch, which indicated a significance value of 0.043 <0.05. Figure 3 shows that the dry weight of weeds is higher when using straw mulch using plastic mulch, over time the straw mulch will gradually experience weathering and the growth gap of weeds will be higher, while plastic mulch has a relatively constant ability to control weeds.

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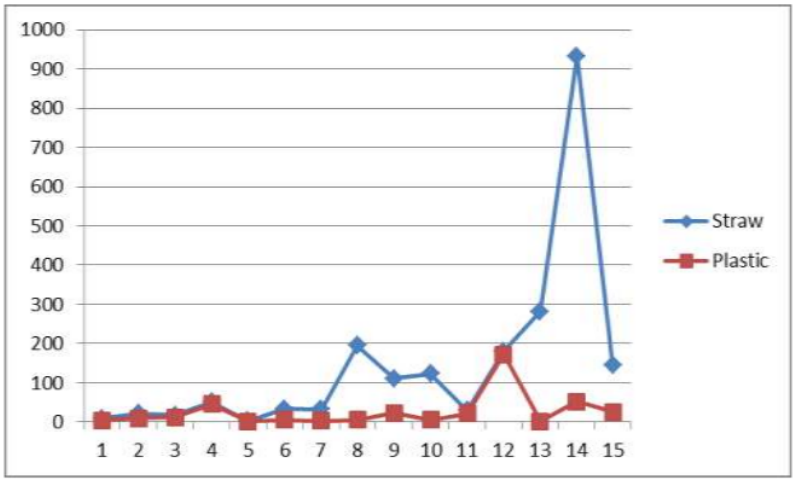

Figure 3
Dry weight of weeds on chili farming land using mulch straw and plastic

The presence of weeds on chili farming land often reduces the yield and quality of chilies. Yield reduction depends on weed type, density, duration of competition, and allelopathic compounds released by weeds. Overall, the yield loss caused by weeds exceeds the yield loss caused by pests and diseases. However, yield losses due to weeds are difficult to estimate because their effects are not immediately observable. Conventionally, weeds in chili plantations can be controlled through the use of mulch, both plastic and straw, although it requires time, effort, and high costs. Although, according to research by Fadhly, AF, & Tabri, F. (2015) there is no correlation between weed weight and a decrease in crop production.

Cost and Income Analysis of Chili Farming

The results of the analysis of cayenne pepper farming in Subak Kacang Dawa, Gelgel Village, Klungkung District, Klungkung Regency using straw mulch and plastic are shown in Table 1, it was found that most of the farmers used local Klungkung seeds namely "Bontok" which were made by themselves from the previous harvest. The use of cayenne pepper seeds spends an average of 15 kg wet/ha for cayenne pepper farmers. The wet chilies are dried until they are ready to be used as seeds on an area of one hectare. The use of inputs for production facilities in cayenne pepper farming, apart from seeds, chemical fertilizers, medicines and other agricultural production facilities are also used. While the use of chemical fertilizers is NPK and lime (dolomite) as well as drugs which are very diverse in type.

Table 1 shows the total cost of cayenne pepper farming per hectare in Subak Kacang Dawa, the amount of farming costs is due to the large cost of production facilities and labor, namely land processing activities to harvesting. This means that the use of family labor is the value of farming costs that can significantly reduce the costs incurred by farmers in cayenne pepper farming. It can be said that labor in the family can reduce the cost of cayenne pepper farming. The Cayenne pepper habits of farmers in Subak Kacang Dawa without using manure on the grounds that transportation costs are relatively high and most of the manure produced has not been processed, so it is feared that it will have an adverse impact on growth. the cayenne pepper plant.

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Table 1. Analysis of cayenne pepper farming using plastic mulch and straw per hectare in Subak Kacang Dawa, 2020

No	Description	Plastic Mulch (Rp)	Straw Mulch (Rp)
1.	Input of Production Facilities		
	Fresh chili seeds	371.250,00	371.250,00
	NPK Fertilizer	5.200.000,00	5.200.000,00
	Dolomite limestone	2.000.000,00	2.000.000,00
	Mulch	15.600.000,00	1.500.000,00
	Gandasil	180.000,00	180.000,00
	Production Means Input Cost	23.351.250,00	9.251.250,00
2.	Labor Input		
	Cultivation of land	2.348.000,00	2.348.000,00
	Pemasangan jerami	640.000,00	960.000,00
	Straw installation	1.152.000,00	1.152.000,00
	Planting	400.000,00	1.065.600,00
	Weeding	480.000,00	448.800,00
	Fertilization	396.800,00	396.800,00
	Spraying	2.400.000,00	2.019.200,00
	Labor Input Cost	7.816.800,00	8.390.400,00
	Total Input Cost	31.168.050,00	17.641.650,00
	Receipt	166.000.000,00	145.960.000,00
	Revenue	134.831.950,00	128.318.350,00
	R/C Ratio	5,33	8,27

Source: Primary Data Analysis, 2020

Based on Table 1. Chili farming using straw mulch and plastic there are differences in the use of production costs. An average of Rp. 9,251,250.00/ha the cost of chili farming using straw mulch, and an average of Rp. 23,351,250,00/ha chili farming costs using plastic. The results of the analysis using the t-test at the 0.05 level of significance test showed a significant difference in the cost of chili farming using plastic mulch was higher than that using straw mulch, this was indicated by a significance of 0.044 <0.05. The difference in costs is only due to the purchase of mulch, the cost of using plastic mulch reaches Rp. 15,000,600,000 while the cost of using straw mulch is only Rp. 1,500,000.00, while other farming costs such as seeds, fertilizers and pesticides are relatively the same, this is because the technology applied to chili farming is also relatively the same except for the difference in the use of mulch.

Labor costs in chili farming using plastic mulch are on average 97.71 Hok, and 104.88 Hok the use of labor in chili farming using straw mulch. The results of the analysis show that there is a significant difference between the use of labor using plastic mulch and straw at the 0.05 level of significance test, this is indicated by a significance value of 0.043 <0.05. This difference is mainly due to the fact that the use of straw for mulching requires more labor, which is an average of 12 Hok, while the installation of plastic only takes 8 Hok, as well as for weeding the use of straw requires 13.32 Hok, especially for weed control, because the growth of weeds is relatively more, while the use of plastic for mulch only requires 5 Hok labor. So that the application of conservation on chili farming land to increase the productivity of chili farming is better to use plastic as mulch, although

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the cost is higher but the use of labor is less, and excess costs can be covered by increased production and income, so it is better to use plastic as mulch when compared to using straw as mulch.

The production of cayenne pepper cultivated by farmers is mostly sold at retail. The average production of cayenne pepper per hectare using straw mulch is 3,649 kg, lower than that using plastic mulch, which is 4,150 kg on average, with an average price of Rp. 40.000,00/kg. Based on Table 1, the income of cayenne pepper farming using straw mulch is lower by an average of Rp. 128,318,350.00/ha while those using plastic mulch are an average of Rp. 134,831,950.00/ha, but the R/C value of 8.27 farmers using straw mulch was higher than farmers using plastic mulch R/C 5.33. R/C of 8.27 means that for every thousand rupiahs spent in cayenne pepper farming, eight thousand two hundred and seventy thousand rupiahs will be returned or a profit of seven thousand two hundred and seventy thousand rupiahs will be returned, and R/C of 5.33 means one thousand rupiahs. spent in cayenne pepper farming, will be returned five thousand three hundred and thirty thousand rupiahs or earn a profit of four thousand three hundred and thirty thousand rupiahs.

Effect of cost and labor on chili farming income

The effect of costs and labor on chili farming income is as follows, Y is the income of chili farmers, as the dependent variable, while the independent variables are, X_1 is the cost of farming chilies, X_2 is the use of labor. The results of the analysis obtained that the F-count 1001,524 was significantly different at the 1% level of significance. The coefficient of determination R Square is 0.990, which means that 99.00% of the developed model can explain the independent variables that are thought to have an effect on chili farming income. Meanwhile, 1.00% is caused by other factors outside the model.

Table. 2 The results of the analysis of the effect of costs and labor on chili farming income

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	179970352.941	4980672.929		36.134	.000
	Cost_X1	739053.662	58221.671	1.390	12.694	.000
	Labor_X2	-2759.307	155.629	-5.033	-17.730	.000
	Dummy_ D	37218718.528	2611207.454	5.348	14.253	.000

a. Dependent Variable: Chili Farmer's Income (Y)

In Table 2, chili farming costs (X_1) have a significantly positive effect on chili farming income, t-hit 12.694, with a significance value of 0.00 < 0.05, meaning that farming costs have a significantly positive effect at a significant level of 5% on chili farming income, meaning that there is a tendency if farming costs increase, farm income will increase. There is a tendency that chili farming management is carried out very intensively so that higher production facilities are needed, especially for purchasing plastic as mulch, the use of plastic as mulch can increase chili production (Darmawan, IGP, Nyana, IDN, & Gunadi, IGA, 2014). The use of labor (X_2) has a significant negative effect on chili farming income, with a significance value of 0.000 <0.05 at a significant level of 0.05 on chili farming income, meaning that there is a tendency if the number of workers used is increasing, the income will decrease. The use of labor, especially labor outside the family, is a cost of farming and will have an impact on reducing income. The large use of labor indicates that farming management innovations are not optimal, such as the use of plastic as mulch, which can

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reduce the use of labor for weed control. Furthermore, it is explained that the use of plastic mulch can increase the income of chili farmers, when compared to using straw as mulch, it is shown that the dummy variable has a positive effect on the 0.05 significance level test, with a significance of 0.00 < 0.05. This means that the income of chili farming using plastic mulch is higher than the income of chili farming using straw mulch.

5. CONCLUSIONS AND SUGGESTIONS

Conclusion

Based on the results of research and discussion, it can be concluded as follows:

1. There is a significant difference in the application of conservation of the use of plastic mulch and straw in chili farming land, namely the soil moisture in the use of plastic is higher than the use of straw, the soil temperature is higher in the use of straw mulch, and the dry weight of weeds is higher in the use of straw mulch.
2. The use of costs and the use of labor in the application of conservation in chili farming land, there is a significant difference, the average cost of chili farming using plastic mulch is Rp. 23,351,250/ha, greater than the average cost of farming using straw, Rp. 9.251.000/ha. And conversely the average use of farm workers who use straw as mulch is more, namely 104.88 Hok, compared to those who use plastic as mulch 97.71 Hok.
3. Cost has a positive and significant effect on chili farming income, while labor has a negative and significant effect on chili farming income.

Suggestions

Based on the results of the discussion and conclusions, it can be suggested the following things: for the application of conservation on chili farming land in order to increase the productivity of chili farming it is better to use plastic as mulch, although the cost is higher but the use of labor is less, and the excess costs can be covered by the increase production and income, so it is better to use plastic as mulch when compared to using straw as mulch.

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