AIJSED | This work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License
Vol. 3 No. 02 (2023)

Andalasian International Journal of Social and Entrepreneurial Development (AIJSED)

ISSN: 2808-6732 (Online)

Available at: http://aijsed.lppm.unand.ac.id/index.php/aijsed

DOI: https://doi.org/10.25077/aijsed.v3.i02.1-6.2023

Article

DIVERSIFICATION OF PROCESSED STRAWBERRY PRODUCTS TO INCREASE THE INCOME OF STRAWBERRY FARMING GROUPS IN LIMAPULUH KOTA DISTRICT

Risa Meutia Fiana*, Wenny Surya Murtius

Department of Agricultural Industrial Technology, Universitas Andalas, Padang, Indonesia

Article Information

Received : 2023-05-05
Revised : 2023-07-25
Accepted : 2023-09-06
Published : 2023-10-19

Keywords

Keyword: *Strawberry Processing, Jam*

*Corresponding Author

risameutiafiana@ae.unand.ac.id

Abstract

The constraints in strawberry cultivation, namely its perishable nature have a very short shelf life. Processing strawberries into jams and sweets can increase the shelf life, and selling value of strawberries and is easy to develop on a household scale. The implementation method is carried out in counseling, training, and guidance. The purpose of this activity is to increase the knowledge of strawberry farmers regarding standard operating procedures for strawberry cultivation and increase the knowledge and skills of strawberry farmers in Nagari Tanjung Aro Sikabu, Luak District, Lima Puluh Kota Regency, West Sumatra regarding the processing of strawberries into jams and sweets. The results of the activity are increasing the knowledge of the community in Limapuluh Kota Regency on processed strawberry products that can increase the added value of strawberries and can improve the community of Nagari Tanjung Aro Sikabu, Luak District, Lima Puluh Kota Regency.

INTRODUCTION

Kabupaten Lima Puluh Kota is the easternmost regency in West Sumatra Province which is the main gateway on the land route with Riau Province. Geographically, Lima Puluh Kota Regency is located at 0º25'28.71" LU - 0º22'14.52" LS and 100º15'44.10" East - 100º50'47.80" East and has an area of 3,354.30 Km² which means 7.94 percent of the land area of West Sumatra Province which covers 42,229.64 Km². Administratively, Lima Puluh Kota Regency is bordered by the following areas: the north is bordered by Rokan Hulu Regency and Kampar Regency of Riau Province, the south is bordered by Tanah Datar Regency and Sijunjung Regency, the west is bordered by Agam Regency and Pasaman Regency, the east is bordered by Kampar Regency and Riau Province (BPS, 2014).

The Lima Puluh Kota Regency area has topographic variations where more than half of the Lima Puluh Kota Regency area has a mountainous topography (with a slope of more than 40%), which is around 56.3% of the district area. Meanwhile, the slope that can be utilized as a cultivation area is below 40%, around 46.7% of the area of Kabupaten Lima Puluh Kota (BPS, 2014).

The policies of the Lima Puluh Kota Regency government include the strengthening of the agribusiness system through the establishment of agropolitan areas for the improvement of superior agricultural commodities accompanied by the management of results to provide added value and the development of cultivation areas to support the strengthening of the agribusiness system through encouraging the realization of agriculture-plantation-based industrial centers and agritourism. One of the areas that will be used as an agro-tourism area is Luak District. The agricultural sector is a sector that can be relied upon in the recovery of the national economy. Various things can be done to be able to develop agriculture from now on. The welfare of farmers and their families is the main goal that must be prioritized in carrying out all activities related to development.

Kecamatan Luak is a sub-district that has cool air because it is located right on the slopes of Mount Sago. The poverty rate in Luak sub-district is 2,054 households and the average education of the population is elementary school education (BPS, 2014). Luak sub-district is an agro-tourism area for strawberries, cassava, red ginger, and oyster mushrooms.

Based on field surveys that have been conducted, the strawberries produced in Luak Sub-district do not meet the standards. Strawberry fruit has an extra grade if it has a size of 20-30 mm with a uniform color of fruit maturity (Menristek, 2014). Luak Sub-district strawberries have a small size, non-uniform color (yellowish-red), and have a sour taste that is less desirable for fresh consumption. The constraints in strawberry cultivation, namely its perishable nature have a very short shelf life. Strawberries have a high water content so they are easily rotten due to enzyme activity or microorganisms (Karina et al., 2012).

Strawberry (Fragaria x ananassa. Duch.) is one of the fruit plants of the Rosaceae family that is popular in many countries, both temperate and tropical countries such as Indonesia. In the United States, in spring this fruit is among the main fruits that dominate the market. Strawberries are commonly consumed fresh or in processed products such as syrup, juice, jam, and ice cream. Strawberries contain high nutrients, especially calcium, vitamin C, and carbohydrates (Shamaila et al., 1992 cit Slamet et al., 2010). To support the development of strawberry farmers, it is necessary to process strawberries into various products. The processed forms of strawberries include jams and sweets.

Processing strawberries into jam and sweets can increase the shelf life, and selling value of strawberries and is easy to develop on a household scale. Jam is a food made from fruits by adding sugar so that the food becomes durable. Jam is a processed form made from chopped, filtered, or milled fruit, which is cooked with sugar until the mixture is concentrated (Yuliani, 2011). Jam is made from 45 parts by weight of fruit juice constituent substances with 55 parts by weight of sugar and this mixture is thickened until it reaches a soluble solid content of not less than 65% for all types of jam (Yuliani, 2011).

Manisan is one form of processed food that is widely favored by the public. Its sweet taste mixed with the distinctive flavor of the fruit is very suitable to be enjoyed on various occasions. Manisan is one of the oldest methods of preserving fruit products, and in its manufacture uses sugar, by soaking

and heating the fruit in honey. Processing various fruits into sweets provides its advantages. Fruit color changes very quickly due to physical influences such as sunlight and cutting, as well as biological influences (fungi) so it easily becomes rotten. Therefore, fruit processing to extend its shelf life is very important, including processing into candied products (Palupi, et al., 2007)

Based on field surveys that have been conducted, the strawberries produced in Luak Sub-district do not meet the standards. Strawberry fruit has an extra grade if it has a size of 20-30 mm with a uniform color of fruit maturity (Menristek, 2014). Luak Sub-district strawberries have a small size, non-uniform color (yellowish-red), and have a sour taste that is less desirable for fresh consumption. The constraints in strawberry cultivation, namely its perishable nature have a very short shelf life. Strawberries have a high water content so they are easily rotten due to enzyme activity or microorganisms (Karina, et al., 2012).

IMPLEMENTATION METHOD

This community service is aimed at strawberry farmer groups and PKK mothers in Nagari Tanjaung Arau Sikabu, Luak District, Lima Puluh Kota Regency. This activity is carried out by means of counseling, training, and ongoing guidance.

1. Counseling

Counseling is carried out as an initial process to increase the knowledge of strawberry farmers regarding post-harvest SOPs so that farmers can improve the quality of strawberries produced. To increase this knowledge, farmers will be given information about the SOPs for strawberry post-harvest by presenting the SOP materials.

2. Training

The making of jams and sweets is chosen from the many products selected by being taught directly to the participants through a demonstration process and practiced directly by the participants. This training also motivates PKK mothers to become entrepreneurs, especially in the field of strawberry processing to increase income.

3. Guidance

Obstacles in making jams and sweets and marketing the products will be encountered in the field. Counseling and training will take place for the next few days to guide participants so that participants will be able to develop strawberry jam and sweets into one of the typical products from Luak District, Lima Puluh Kota Regency.

RESULTS AND DISCUSSION

This activity was attended by three farmer groups, namely Pandan Wangi, Sepakat Bersama, and Maju Bersama farmer groups. In addition to the farmer groups, this service was also attended by a field agricultural extension worker from the Limo Puluah Koto agricultural office named Siti Khadijah. The number of farmer group members present totaled 36 people.

The extension activities carried out are conducting reviews of strawberry gardens from several random farmer group members. Based on the results of the review in the field, the strawberry garden is still developing, this can be seen from the seedlings that are still approximately 1 month old. The dry season causes many seedlings to die. Besides being planted in the garden provided by the Limo Puluah Koto Agriculture Office, it is also planted in the yards of farmer group members' homes.

The review of the strawberry farm aimed to find out the problems that exist in the agricultural group regarding strawberry post-harvest. The problem is the lack of post-harvest tools such as scissors to pick strawberries. Strawberry picking is done manually so that it hits the strawberry flowers which causes the loss of strawberry flowers as a candidate. In addition, pests that cause a decrease in the number of strawberry harvests such as monkeys and pigs. These pests are the result of the farm being close to the forest. Children around the farm also cause a lack of harvest. Children around the farm harvest young strawberries. Harvesting young strawberries causes damage to the strawberry plants.

The strawberries harvested by the Pandan Wangi, Sepakat Bersama, and Maju Bersama farmer groups are small and approximately 2-3 cm in diameter. The strawberries produced have a sour taste. This is because the seeds used by farmers are not seeds that produce strawberry quality that meets SNI standards. Suggestions for the Limo Puluah Koto Agriculture Office are to provide strawberry seeds that have a quality that meets SNI standards so that the strawberry garden in Limo Puluah Koto Regency Nagari Nagari Tanjaung Aro Sikabu as an agro-tourism destination for strawberry gardens. So the work program of the Limo Puluah Koto Agriculture Office to make Limo Puluah Koto Regency Nagari Nagari Tanjaung Aro Sikabu an agro-tourism destination for strawberry gardens is realized.

The making of jams and sweets was chosen from the many products selected by being taught directly to the participants through a demonstration process and practiced directly by the participants. This training also motivates farmer groups to become entrepreneurs, especially in the field of strawberry processing to increase income. In addition, it also increases the interest of strawberry agro-tourism visitors to visit strawberry agro-tourism in Limo Puluah Koto Nagari Tanjaung Aro Sikabu Regency as a strawberry garden agro-tourism destination.



Figure 1. Strawberry Processed Product Making Practice



Figure 2. Products of Practical Activities (Strawberry Jam)

Product packaging was also taught to participants through a demonstration process. Packaging is done using plastic cups which are then covered with plastic warp to increase the shelf life of the strawberry jam. The team also provided plastic cup packaging to be used for trials by the farmer groups.

Labeling for the strawberry jam was designed by the community service team. The packaging design was printed on label paper. The community service team provided a hard copy of the strawberry jam label and provided a soft copy of the strawberry jam label design.

MONITORING AND EVALUATION

This activity aims to monitor partner activities after students leave the farmer group location. Monitoring and evaluation are carried out by the Community Service Team by going directly to the location. This monitoring and evaluation activity is carried out by: holding discussions with farmer groups, regarding the problems faced after the mentoring activities, so that problem solving is sought, for example; marketing of strawberry jam produced.

Post-harvest provision of strawberries, finally in collaboration with can be produced in large quantities, and an agreement was made that farmers only provide raw materials and strawberry production. Obstacles in making jam and sweets and marketing the products will be encountered in the field. Counseling and training will take place for the next few days and guidance will be given to the participants so that they will be able to develop strawberry jam and sweets into one of the typical products from Luak District, Lima Puluh Kota Regency.

CONCLUSION

Strawberry fruit in Luak Sub-district has a small size, non-uniform color (yellowish-red), and has a sour taste so it is less desirable for fresh consumption. The constraints in strawberry cultivation, namely its perishable nature have a very short shelf life. Strawberries have a high water content so they are easily rotten due to enzyme activity or microorganisms. The purpose of this activity is to increase the knowledge of strawberry farmers regarding standard operating procedures for strawberry cultivation and to increase the knowledge and skills of strawberry farmers in Nagari Tanjung Aro Sikabu, Luak District, Lima Puluh Kota Regency, West Sumatra regarding the processing of strawberries into jams and sweets.

REFERENCES

BPS Lima Puluh Kota. 2014. *Lima Puluh Kota dalam Angka 2014.* BPS Solok Selatan. Sumatera Barat.

Karina, R., Sri, T., dan Didik, I. 2012. *Pengaruh Macam dan Kadar Kitosan Terhadap Umur Simpan dan Mutu Buah Stroberi.* Fakultas Pertanian Univeristas Gajah Mada. Yogyakarta.

Menristek. 2014. *Deputi Menegristek Bidang Pendayagunaan dan Pemasyarakatan Ilmu Pengetahuan dan Teknologi*. Jakarta.

Palupi, Zakaria & Prangdimurti. 2007. *Modul e-Learning ENBP, Departemen Ilmu dan Teknologi Pangan Fateta IPB.* Bogor

Slamet, S., Bayu, H., dan Nurul K. 2010. *Produksi dan Kualitas Stroberi pada Beberapa Sistem Irigasi.* Jurnal Teknologi Hortikultura Indonesia.

© Risa Meutia Fiana, Wenny Surya Murtius, (2023)