

The Processing of Fig Leaves (*Ficus carica* L.) by Posdaya Lancar Barokah in Pokoh Kidul Wonogiri

Ali Mursyid Wahyu Mulyono
University of Veteran Bangun Nusantara
Sukoharjo

Afriyanti
University of Veteran Bangun Nusantara
Sukoharjo
afriyantistp@gmail.com

Joko Setyo Basuki
University of Veteran Bangun Nusantara
Sukoharjo

Sri Sukaryani
University of Veteran Bangun Nusantara
Sukoharjo

Dewi Susilowati
University of Veteran Bangun Nusantara
Sukoharjo

Marinir
University of Veteran Bangun Nusantara
Sukoharjo

Abstract. Fig (*Ficus carica* L.) cultivation is currently being developed in Pokoh Kidul Wonogiri. The fig fruits are still relatively expensive, so it is not optimal to be developed into various products. Therefore, an alternative approach was made by processing the fig leaves. This processing was conducted by the productive economic community in Pokoh Kidul, that was named Posdaya Lancar Barokah. These fig leaves contain volatile compounds that have a distinctive aroma. It can be developed into various products such as perfume, soap, aromatherapy oil, and others. The purpose of this activity was to improve the economy of the Pokoh Kidul society by selling various fig leaves products. The stages of this productive activity include training, production, packaging, and marketing. The results showed that Posdaya Lancar Barokah has been able to develop a variety of fig leaves products. The products include perfume, soap, tea, telon oil, and aromatherapy oil. Products are marketed both directly to consumers and online. Online marketing through social media like YouTube, Instagram, Facebook, and Kampung Fig Web. The selling results are still fluctuating because the fig leaves products are not yet widely known by the society, so there needs to be a more intensive marketing process.

Keywords: fig, marketing, posdaya, volatile compounds

INTRODUCTION

The cultivation of fig plants (*Ficus carica* L.) is currently being developed in the area of Pokoh Kidul Wonogiri. Cultivation activities are carried out by a Sri Kuncoro farmer group in Pokoh Kidul[1], while post-harvest processing is carried out by Posdaya Lancar Barokah team. So far, Posdaya only treats figs into syrup. However, the syrup produced does not have good quality. The shelf life of the syrup was still relatively short, just 19 days[2]. The nutritional content of syrup was low because it uses immature fruits. The taste of syrup is not so good

because of the low sugar content [3]. The price of fruits is still high. This result in the high selling price of the product. The fig leaves are abundantly available, but it is only processed to be tea. The components in fig leaves are volatile compounds which cause fragrant scents, including psoralen (10.12%), β -damascenone (10.17%), benzyl alcohol (4.56%), behenic acid (4.79%), and bergapten (1.99%), etc.[4] Therefore, fig products are developed by extracting the volatile compounds to be processed into soap, perfume, aromatherapy, and telon oil.



Figure 1. Fig (*Ficus carica*, L) leaves.

A common problem that commonly exists in new products is marketing. A new product is not yet known publicly, so there should be a proper way to introduce the product to society. Attractive packaging is also one of the factors that support product marketing. Business competition needs design development on the packaging to attract consumers' attention and increase product selling. Clearly, packaging plays a vital role as a medium of communication between producers and consumers because they can deliver messages and information through that packaging[5].

In addition, the marketing method will also make the products are known by the public rapidly. Marketing strategy is an effective way to win a competitive market. A marketing strategy can be seen as one of the bases used in preparing company plans. Another reason that shows the

importance of marketing strategy is companies competition getting harder[6].

The purposes of this activity are to improve the usage of fig leaves to become products so they can have higher economic value and to enhance the economic life of the Pokoh Kidul community through the sale of various fig leaves products.

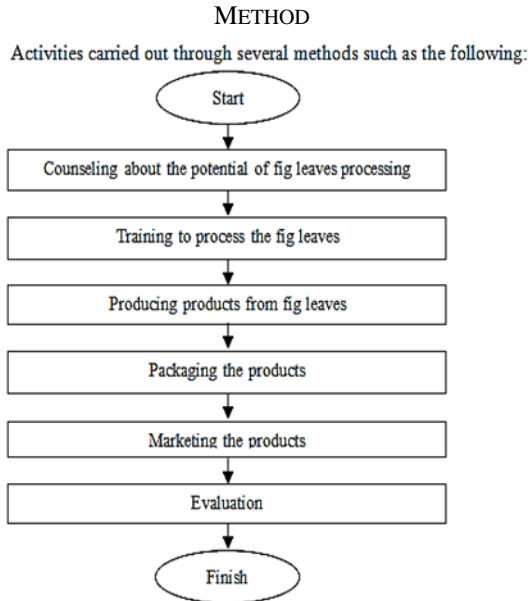


Figure 2. Flow chart of methods to solve the problem

(1) Counseling about the potential of fig leaves processing. The first stage in this activity is counseling about the potential to process fig leaves. At this stage, the components contained by the fig leaves were explained. This stage teaches the community how to process the leaves properly. (2) Training to process the fig leaves. After the counseling activity, training to process the fig leaves to be some products such as the soap, perfume, aromatherapy, and telon oil is conducted. This training session will collaborate with Fig Lovers Community. (3) Producing products from fig leaves. Posdaya starts to produce the fig leaves into products for a commercialized purpose. (4) Packaging the product. Before packing the product, counseling about the regulation of packing and labeling was done. Packing of product is done in various sizes. Perfume products are packed into three sizes, 10 ml, 25 ml, and 50 ml. Tea was packed with bottles and wrapped with paper weighing 80 gr. Soap is packed in 80 gr. (5) Marketing the products. Marketing is executed both directly and online. Direct marketing is by selling the products to the neighborhood area, around Wonogiri. Online marketing resulted from online marketing training activities is carried out through Kampung Tin's Instagram, Facebook, YouTube and web accounts. (6) Evaluation. Evaluation activities are carried out after four months of sales to determine the progress of product sales.

RESULTS

Production and marketing of fig leaf products aimed to utilize fig leaves waste and improve the economy of the Pokoh Kidul community were started with counseling activities. This activity was attended by members of Posdaya Lancar Barokah. Counseling activities are mainly talking about the potential of fig leaves to be processed to be products. The production is possible because of the active compounds contained in them. Different fig plant varieties will produce different active and volatile compounds in fig leaves. *Ficus carica* is widely used as flavors. In addition to some aromatic constituents reported previously, some new aromatic elements were isolated by GC-MS. In the oil from the extracted leaves, 35 aromatic elements were obtained, thirty of which were firstly reported. In the essential oils from the fruits, 29 aromatic constituents were isolated, twenty-six of which were first reported. Many of the aromatic components are widely used as food and cosmetics. Indole is mostly used among those volatiles, presenting in fig[4]. The main volatile components in fig leaves are aldehyde, alcohol, ketones, monoterpenes, sesquiterpenes, norisoprenoid, and miscellaneous[7].

After counseling, the activity was continued with training to proceed fig leaves into products. This activity was in collaboration with Fig Lovers Community. The activity was carried out three times and continued with production activities. The products of the fig leaves are tea, soap, perfume, aromatherapy oil, and telon oil. The tea is produced in two methods, oven drying and sun drying. Based on the analysis carried out at the Food and Nutrition Laboratory Faculty of Agricultural Technology UGM, the fig leaves dried using sunlight have higher tannin levels and antioxidant activity[3]. So, the production of fig leaves tea was continued by using sunlight. The perfume was extracted using alcohol. There are some perfume scents, like real scents of fig leaves and combined with orange scents. The strong fragrance of tin leaves is men's favorite.



Figure 3. (a) Tea; (b) Soap; (c) Perfume; (d) Aromatherapy and telon oil

Before product packaging activities, counseling was carried out on packaging and labeling. This was aimed to increase the understanding of the safe packaging types, especially for food products and the rules that the society needs to know when dealing with packaging and labeling. Another reason for this activity was to increase the quality of the packaging, so the consumers were more interested in buying the products. Tea product is packaged in 80-gram size bottle. Then, a paper is wrapped around the bottle to inform the content and benefits of the fig leaves tea. Perfumes are packed into three sizes, 10 ml, 25 ml, and 50 ml. It makes it easier for consumers to choose the size based on their need and preference. Aromatherapy oil and fig telon are packaged in 10 ml bottle. Soap is packaged using plastic as a primary pack and then wrapped with paper. The contents and benefits of soap are included in the brochure sheets tucked into the paper of the soap package. After packaging, the product is ready for sale.

Marketing started with a conventional way, directly sold to consumers. Also, the products were sale online. Sales of fig leaves products have been carried out since June 2018, but they were marketed traditionally until November. After that time, the products were marketed online as well. The sales of fig leave products can be seen in Figure 4.

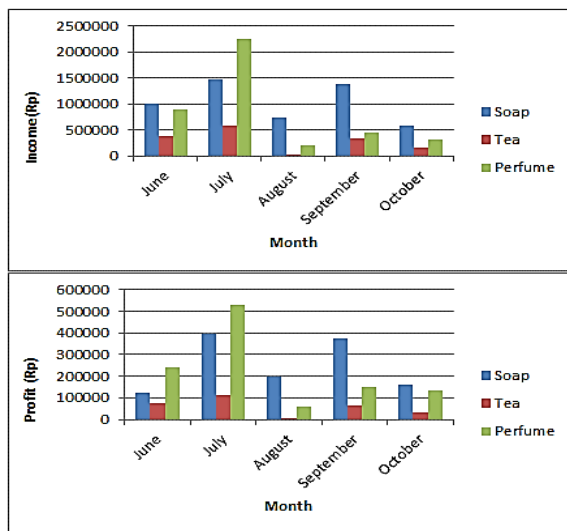


Figure 4. Income and profit from fig leaves product selling

Product sales are fluctuating because they are not yet known by the public. Therefore, the marketing activities were also done online to jack up the selling. Counseling and tips and tricks on online marketing are carried out to members of Posdaya Lancar Barokah.

Marketing carried out through an interactive online system, connecting buyers and sellers electronically right away, is an essential part of e-commerce or the process of trading electronically. This activity uses a website, blog, or social media[8]. Marketing activities are carried out in 2 stages, online marketing counseling, and training. Online marketing counseling was conducted through the

introduction of several social media commonly used for online marketing activities such as Facebook, Instagram, and the web. During counseling, participants were given a module about online marketing. This activity, followed by more than 10 participants, just informed general information related to online marketing. The next activity was online marketing training. This activity was attended by five members of Posdaya Lancar Barokah. Online marketing training activities were held on October 7, 2018. This training included the creation of social media for sales and online sales tricks. The result was the creation of online social media (Instagram, Facebook, YouTube, and website) coming into existence. This online sale platform introduced fig leaves products online, which then called Kampung Tin. Every member is responsible for running one type of online social marketing media.

CONCLUSION

Fig leaves have a volatile compound that can be developed into products. Figleaves products developed by Posdaya Lancar Barokah are tea, soap, perfume, aromatherapy, and telon fig. Product sales by conventional marketing are fluctuating, so online marketing was applied to increase income. Online sales are through social media such as Instagram, YouTube, Facebook, and Kampung Tin websites. The production and sale of various fig leave products can improve the economy of the Pokoh Kidul community, especially members of the Posdaya Lancar Barokah.

ACKNOWLEDGEMENTS

The authors extend most profound gratitude to the Directorate of Research and Community Service of Research, Technology and Higher Education Ministry which funded this research through *Program Pengembangan Desa Mitra* 2018, contract no: 011/M.1/LPPM/Univet.Btr./III/2018.

REFERENCES

- [1] A. Mulyono, J. Basuki, S. Sukaryani, and Afriyanti, "Peningkatan Keterampilan Pembuatan Pupuk Organik oleh Kelompok Tani Sri Kuncoro Pokoh Kidul Wonogiri," *Pros. Semin. Nas. Pengabd. Kpd. Masy. Peningkatan Kualitas Pemberdaya. Masy. Menyongsong Revolusi Ind. 4.0 Univ. Slamet Riyadi Surakarta*, vol. 1, pp. 403–406, 2018.
- [2] A. M. W. Mulyono, Afriyanti, J. S. Basuki, and S. Sukaryani, "Pendugaan Umur Simpan Sirup Buah Tin 'Kharomah' dengan Metode Accelerated Shelf Life Testing (ASLT)," vol. 4, no. 1, pp. 1–6, 2018.
- [3] Afriyanti, A. M. W. Mulyono, J. S. Basuki, and S. Sukaryani, "Improving The Quality of Fig (*Ficus carica* . L) Processing from Posdaya Lancar Barokah

- Pokoh Kidul Wonogiri,” *Int. Conf. Appl. Sci. Eng. (ICASE 2018)*, vol. 175, pp. 88–90, 2018.
- [4] L. I. Jun, T. Yu-zeng, S. U. N. Bao-ya, Y. Dan, C. Ji-ping, and M. E. N. Qi-ming, “Analysis on Volatile Constituents in Leaves and Fruits of *Ficus carica* by GC-MS,” vol. 4, no. 888, pp. 63–69, 2011.
- [5] R. . dan Z. Hartono, “Pengembangan Desain Kemasan Sekunder Parfum Merk Griya Parfumes Sidoarjo,” *J. Pendidik. Seni Rupa*, vol. 5, no. 1, pp. 128–135, 2017.
- [6] A. dan S. Wibowo, D H, “Analisis Strategi Pemasaran untuk Meningkatkan Daya Saing UMKM (Studi pada Batik Djajeng Solo),” *J. Adm. Bisnis*, vol. 29, no. 1, pp. 59–66, 2015.
- [7] A. P. Oliveira *et al.*, “Volatile Profiling of *Ficus carica* Varieties by HS-SPME and GC – IT-MS,” *Food Chem.*, vol. 123, no. 2, pp. 548–557, 2010.
- [8] I. Setiawati and P. Widyartati, “Pengaruh Strategi Pemasaran Online terhadap Peningkatan Laba UMKM,” *Pros. Semin. Nas. Strateg. Pengemb. Sumber Daya Mns. melalui Publ. J. Ilm. dalam Menyikapi Permenristekdikti RI No. 20 Tahun 2017*, pp. 343–347, 2017.