

Analysis of Project Activities for Strengthening Pancasila Student Profiles (P5) through the Manufacturing of VCO Products

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Abstract: This study aims to analyze the stages of making Virgin Coconut Oil (VCO) at SMAN 1 Sekotong, West Lombok, NTB Indonesia. Making Virgin Coconut Oil (VCO) products is one of the Projects to Strengthen Pancasila Student Profiles (P5) in the independent curriculum. The research objectives were achieved with qualitative descriptive methods and what was found during the research. Data was collected by observation, interviews with teachers directly involved in this project. The results of the analysis show the stages of making Virgin Coconut Oil (VCO) starting from selecting good coconuts, making coconut milk, separating the first coconut milk, and separating the second coconut milk and finally getting Virgin Coconut Oil (VCO).

Keywords: Project Activities; Pancasila Student Profile; Virgin Coconut Oil (VCO); SMA N 1 Sekotong

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Introduction

SMAN 1 Sekotong is one of the schools located in Cendi Manik Village, Sekotong District, West Lombok Regency, NTB which was chosen to be a driving school by carrying out P5 activities. The P5 activity is a project activity to strengthen the profile of Pancasila students. P5 activities can be carried out by going through 3 stages, namely the conceptual stage and the contextual stage (Kemdikbud, 2022). In this P5 activity, students are given the freedom to study in formal situations, the learning structure is more flexible, the school can adjust the time distribution, resulting in more active learning activities because students are directly involved with the surrounding environment which aims to strengthen various competencies in the Pancasila Student Profile (Rachmawati, 2022).

Implementation of P5 (Project Strengthening Pancasila Student Profile) at SMAN 1 Sekotong carries

the theme of entrepreneurship by making VCO (Virgin Coconut Oil) products or virgin coconut oil. The thing that underlies SMAN 1 Sekotong to make VCO products is because of its position in the area with the most coconut producers in West Lombok. The purpose of the introduction and training for making VCO is as an effort to open up business opportunities in the field of VCO product development. This business opportunity in the field of VCO is quite promising because it has a high selling value. Besides this VCO product is known by the upper and lower middle class of the economy and is very good for health, so VCO or pure coconut oil is different from cooking oil (jelengan oil) in terms of the manufacturing process (Tamzil, 2017). Implementation of P5 activities through the manufacture of VCO products can foster a level of confidence in students in their work, can increase students' self-potential, make students more active because students hold discussions with their friends about the projects they will show and

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can find out the interests of students' talents in a field (Rahman, 2016). In its implementation, the teacher plays an important role, namely as a facilitator (Retno, 2016).

After conducting research, P5 activities carried out as an implementation of the independent curriculum can provide more meaningful experiences and learning processes to students. Because in practice, students are required to discuss with friends, make an item or event regarding the project and train students to be able to solve a problem to get good results. Therefore, this study aims to determine the implementation of P5 activities as a project to strengthen the Pancasila Student Profile through the manufacture of Virgin Coconut Oil (VCO) or pure coconut oil. The Strengthening Pancasila Student Profile Project (P5) is a project-based co-curricular activity designed to strengthen efforts to achieve competency and character in accordance with the Pancasila student profile which is structured based on graduate competencies (Putri, 2022). The project to strengthen Pancasila student profiles, as a means of achieving Pancasila student profiles, provides opportunities for students to "experience knowledge" as a process of strengthening character as well as an opportunity to learn from their surroundings. In this profile project activity, students have the opportunity to study important themes or issues such as climate change, anti-radicalism, mental health, culture, entrepreneurship, technology, and democratic life so that students can take real action in responding to these issues. according to the stages of learning and their needs (Rusnaini, 2021). Pure coconut oil or scientific language virgin coconut oil (VCO) is oil that comes from coconut essence, processed hygienically without direct touch of fire and chemical additives so that the essential ingredients in the oil can be maintained (Less, 2021). The main component of about 92% of VCO is saturated fatty acids, including lauric acid (48.74%), myristic acid (16.31%), caprylic acid (10.91%), capric acid (8.10%) and tamarind. caproate (1.25%) (Purnawati, 2017). Hybrid coconut is a type of coconut that is produced from a cross between coconuts with tall trees (deep coconuts) and fast fruiting coconuts (dwarf coconuts) so that the good properties of both types of original coconuts are produced (Bubun, 2020). In Sekotong, many types of hybrid coconut have been planted. Hybrid coconuts have superior characteristics inherited from their parents, namely they can bear fruit quickly (4-5 years), have an average fruit potential of up to 120 seeds per tree per year, have thick fruit flesh, have a high oil content, are classified as plants with large trees. moderate and resistant to pests and diseases (Wijaya, 2007).

Coconut oil based on the fatty acid content is classified into lauric acid oil because the lauric acid content is the highest when compared to other fatty acids (Putri, 2019). Based on the level of unsaturation expressed by the Iod number (Iodine Value), coconut oil

can be included in the non-drying oils group because the oil number ranges from 7.5 to 10.5 (Salirawati, 2007).

The environment around SMA N 1 Sekotong has high-quality coconut natural resources, making it possible to create a project to strengthen the profile of Pancasila students. This is what attracts researchers to analyze this P5 activity at SMA N 1 Sekotong.

Method

This study used descriptive qualitative method. The research sample was class X students of SMAN 1 Sekotong. Data was collected by interviewing teachers and students of SMAN 1 Sekotong regarding P5 activities as an independent curriculum implementation. Data analysis in this study went through several stages, namely: (1) data reduction, where the researcher summarized the data from observations, interviews and documentation with the aim of obtaining some basic data; (2) data presentation, namely compiling the data that has been obtained after the data has been reduced so that the researcher's data can be easily understood; (3) drawing conclusions, namely the researcher concludes the data that has been compiled to verify or review the records that have been collected. The following is a flowchart of the research that has been done:

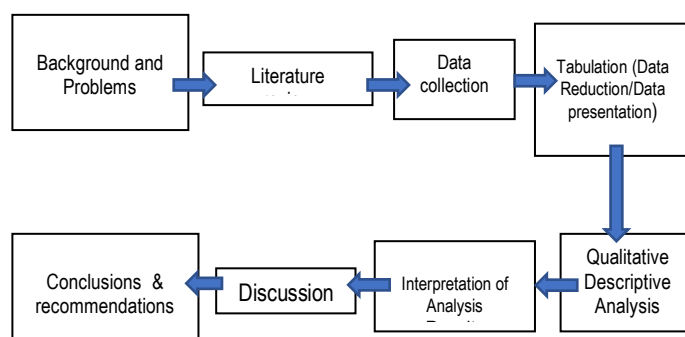


Figure 1. flowchart of the research

Result and Discussion

SMAN 1 Sekotong in the implementation of P5 (Project for Strengthening Pancasila Student Profiles) carried the theme of entrepreneurship by making Virgin Coconut Oil (VCO) or pure coconut oil. This is the second flagship program of SMAN 1 Sekotong, who previously successfully completed the bagek twin mangrove conservation nature class program. This P5 activity was carried out in the Science Laboratory room of SMAN 1 Sekotong. Participants involved in this activity were carried out by students in class X phase E with a total number of 132 students divided into 4 class groups consisting of classes (XA, XB, XC, XD) each class gradually for performance activities, where this activity begins by forming working groups consisting of 5 working groups per class then each group prepares the

materials or tools needed to make VCO (Virgin Coconut Oil) or pure oil, including sufficient warm water, closed plastic containers, plastic bags, rubber bands, filters, funnels, filter cloth and glass bottles. The following is the process of making VCO (Virgin Coconut Oil) or pure oil by class X students of SMAN 1 Sekotong.

Selection of coconuts

Selection of coconut meat is the initial process of making VCO (Virgin Coconut Oil) and determines the amount of oil that will be produced, choose coconuts that are almost old, because the growth of the flesh is sufficient and thick, choosing quality coconut is also necessary. Coconuts that are old, the oil content has turned into carbohydrates and at the base of the coconut there are usually gandos, which are small yellowish lumps. If the gandos is large, it should not be used because the oil content in the fruit flesh has begun to decrease.

Make coconut milk

After getting the appropriate coconut, then start making coconut milk, coconut milk is processed by grating it using a machine. Then the grated is filled with sufficient warm boiled water, then we can squeeze the grated coconut and dissolve it into the warm boiled water. After squeezing the pulp from the grated coconut can be separated to produce coconut milk.

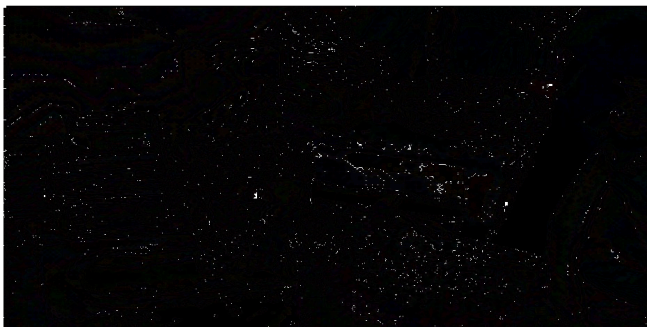


Figure 2. Grated coconut using a machine



Figure 3. Coconut Squeezing

The process of separating the first coconut milk

The next way in the process of making VCO (Virgin Coconut Oil), coconut milk can be put in a plastic bag. Use a plastic bag to make it easier to get rid of the water under the coconut milk. After that, close the plastic bag by tying it with a rubber band. Then let it rest for about 1-2 hours, try to reduce the movement of the plastic bag while it is still there and place it in a flat place.



Figure 4. Putting coconut milk in a plastic bag

The next process is to make VCO after letting it sit, 2 layers will form in a plastic bag containing coconut milk. The top is thick coconut milk and the bottom is water. Because we don't use the water, let the water drain through the plastic hole under the coconut milk and close the hole immediately when part of the water in the coconut milk has run out.

The process of separating the second coconut milk

The next process and continuation of making Virgin Coconut Oil is, thick coconut milk which has been separated from the water is put into a clean and closed plastic container. After that, for 24 hours, the coconut milk will undergo an extraction process where bubbles will appear on the surface and the oil will begin to separate. After 24 hours, 3 layers will form in the coconut milk. The top layer is oil, in the middle is coconut dregs or blondo and the bottom is water.



Figure 5. Coconut milk extraction process

Furthermore, the oil contained above the coconut milk is VCO (Virgin Coconut Oil) which can later be used and felt the benefits, the VCO can be separated from other substances by putting it in a clean bottle. Separating the oil from coconut milk requires patience and patience because coconut milk usually gets carried away in the oil, causing it to smell quickly. You can put the oil in using a funnel covered with filter cloth or tissue without perfume, thereby helping to keep the coconut milk or dregs from getting carried away. Then spoon slowly and pour the filter. Let the oil drip slowly into the glass bottle.



Figure 6. Oil Dripping Into a Glass Bottle

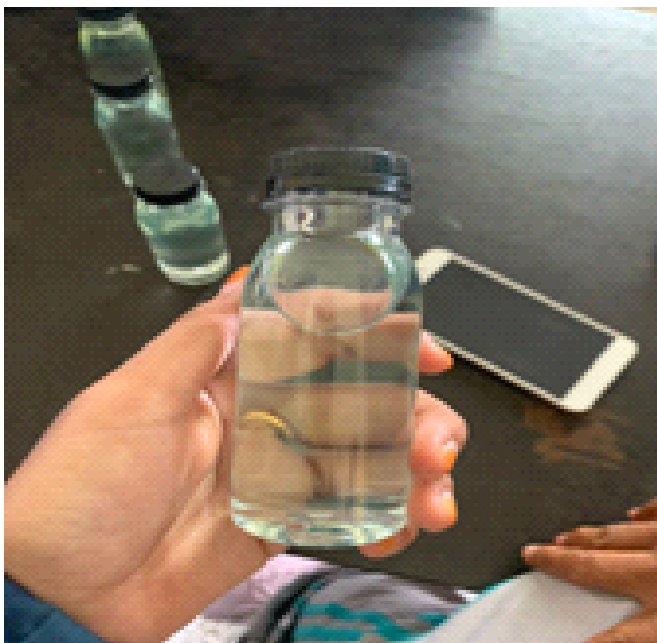


Figure 7. VCO Results of P5 class X students' activities

Furthermore, VCO (Virgin Coconut Oil) is ready to be marketed. VCO is very useful for health or beauty. Indeed, there are many benefits of VCO for health, such

as benefits for skin, face, obesity, diabetes, and can even prevent heart disease. Benefits for beauty can be to soften the skin, treat hair, soften facial skin and treat acne on your facial skin. With a myriad of benefits offered by VCO (Virgin Coconut Oil) it can be a qualified herbal medicine at low cost for your body's health.

Pure coconut oil or better known as Virgin Coconut Oil (VCO) is a modification of the process of making coconut oil so that a product with a low water content and free fatty acid content is produced, is clear in color, smells good, and has a long shelf life of more than 12 month (Rahmawati and Khaerunnisya, 2018). Pure coconut oil has many advantages, namely the manufacturing process does not require expensive costs, the processing is simple and not too complicated (Rifdah, Ani Melani, Aisyah A., 2021). Pure coconut oil or Virgin Coconut Oil (VCO) is one of the processed products from coconut fruit which has high economic value (Nurlia and Atika, 2021). VCO is pure coconut oil that comes from fresh old coconuts which is processed in a simple way without bleaching and hydrogenation processes. VCO is classified as an oil that is resistant to heat, light, oxygen and degradation processes, because its chemical structure does not contain double bonds (Novriansyah, 2020). Coconut is a tropical plant and can be processed into various kinds of food products and coconut oil, one of which is Virgin Coconut Oil (VCO).

Coconut can be processed into VCO by fermenting it using pineapple cobs and without using pineapple cobs. Pineapple weevil can accelerate the process of forming oil from coconut milk because it is a nutrient for bromylin microbes to multiply so that coconut milk as a substrate turns into oil products (Ishak et al., 2019). Processing of coconut fruit in Gunung Megang Village, Gunung Megang Muaraenim District aims to produce pure oil or Virgin Coconut Oil (VCO) which is the result of processed fresh coconut fruit by fermentation without going through a heating process, no additional chemicals, dyes, and preservatives so that it can survive. as vegetable oil (Emilia et al., 2021). Virgin Coconut Oil (VCO) is a processed coconut product that has high benefit and selling price. Enzymatic is a method of VCO production (Claudia et al., 2019). Based on the findings above, VCO is pure coconut oil which has high economic value and its fermentation can be accelerated with certain ingredients. A study on the commercial virgin coconut oil (VCO) available in the Malaysian and Indonesian market was conducted. These results suggest that VCO is as good as RBD coconut oil in chemical properties with the added benefit of being higher in phenolic content (Marina et al., 2009). Although it is one of the most widely used virgin coconut oil (VCO) production methods, there are no metagenomic studies that detail shifts in the bacterial community during fermentation-based VCO production (Zomesh et al., 2022). Virgin coconut oil is a useful substance in our daily life. It contains a high percentage

of lauric acid which has many health benefits. This study is vital as it provides insights that could enhance the production of coconut oil (Yan Jer et al., 2021). As an adjunct therapy, meals mixed with VCO is effective fostering faster recovery from COVID-19 (Imelda et al., 2021). Virgin Coconut Oil (VCO) has been known to have a potential antioxidant effect which was able to boost the immune system. The balanced immune system ensures a stable growth in children and prevents infection (Kardinasari and Devriany, 2019).

Conclusion

Based on the results of the research that P5 activities with the theme of entrepreneurship by making Virgin Coconut Oil (VCO) or pure coconut oil are very suitable to be carried out by class X students of SMAN 1 Sekotong as evidenced by the results of the VCO which is almost perfect for marketing. With this VCO-making activity, students can develop their skills and self-potential, foster a level of confidence in students in their work, make students more active because students hold discussions with their friends about the projects they will show and can find out the interests of students' talents in a certain area. field. In its implementation, the teacher plays an important role, namely as a facilitator. The purpose of this activity is carried out as an effort to improve students' skills in producing projects that are adapted to the Pancasila Student Profile.

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References

- Bubun, R. L., & Mahmud, A. (2020). Pelatihan dan Pendampingan Usaha Kreatif Virgin Coconut Oil Desa Palingi Timur, Kabupaten Konawe Kepulauan (Training and Mentoring of VCO Business Creative in Palingi Timur Village, Konawe Kepulauan District). *6(2)*, 166-172.
- Budiman, F., Obrin Ambari, Azhary H. Surest. (2012). Pengaruh Waktu Fermentasi dan Perbandingan Volume Santan dan Sari Nanas Pada Pembuatan Virgin Coconut Oil (VCO). *Jurnal Teknik Kimia*. *18(2)*, 37-46. From: <http://jtk.unsri.ac.id/index.php/jtk/article/view/16>
- Claudia Gadizza Perdani, Maimunah Hindun Pulungan, Siti Karimah, (2019). Pembuatan Virgin Coconut Oil (VCO) Kajian Suhu Inkubasi dan Konsentrasi Enzim Papain Kasar. *Jurnal Teknologi Manajemen dan Agroindustri*. *8(3)*, 238-245. From: <https://industri.ub.ac.id/index.php/industri/article/view/405>
- Emilia, I., Yunita Panca Putri, Dewi Novianti, Melly Niarti. (2021). Pembuatan Virgin Coconut Oil (VCO) dengan Cara Fermentasi di Desa Gunung Megang Kecamatan Gunung Megang Muara Enim. *Jurnal Sainmatika*. *18(1)*, 88-92. From: <https://jurnal.univpgri-palembang.ac.id/index.php/sainmatika/article/view/5679>
- Hapsari, N., & Tjatoer Welasih, (2019). Pembuatan Virgin Coconut Oil (VCO) dengan Metode Sentrifugasi. *Jurnal Teknologi Pangan*. From : <http://ejournal.upnjatim.ac.id/index.php/teknologi-pangan/article/view/441>
- Imelda, A. S., Nacisa Mario V., Capanzanaa Fabian M., Dayritb Keith V. Tandaa. (2021). Virgin coconut oil is effective in lowering C-reactive protein levels among suspect and probable cases of COVID-19. *Journal of Functional Foods*. *83*, 1-8. From: <https://www.sciencedirect.com/science/article/pii/S1756464621002061>
- Ishak, Amri Aji, Israwati, (2019). Pengaruh Waktu Fermentasi dan Berat Bonggol Nanas pada Pembuatan Virgin Coconut Oil (VCO). *Jurnal Teknologi Kimia*. *8(1)*, 57-68. From: <https://ojs.unimal.ac.id/jtk/article/view/1917>
- Kardinasari, & E., Devriany, A. (2022). Phytochemical identification of bangka origin virgin green coconut oil: Anti-inflammatory and anti-bacterial potential. *Enfermeria Clinica Journal*. *30(S4)*, 171-174. From: <https://doi.org/10.1016/j.enfcli.2019.10.062>
- Kemendikbud. (2022). *Kurikulum Merdeka Jadi Jawaban Untuk Atasi Krisis Pembelajaran*. <https://kemendikbud.go.id>
- Kurang, R. Y. (2021). Pelatihan Pembuatan Virgin Coconut Oil (VCO) dan Pemanfaatan Sisa Olahannya sebagai Tepung Pembuat Kue. *3(1)*, 10-16. <https://doi.org/10.36312/sasambo.v3i1.360>
- Marina, A. M., Che Man, Y. B., Nazimah, S. A. H. & Amin, I. (2009). Chemical Properties of Virgin Coconut Oil. *Journal of the American Oil Chemists' Society*. *86*, 301-307. From: <https://link.springer.com/article/10.1007/s11746-009-1351-1>
- Novriansyah, M.A., Nur Istiyah Harun, Kalzum R. Jumiyanti, Wahyudin Hasan, Annisa Rizqa Alamri. (2020). Pendampingan Pembuatan VCO (Virgin Coconut Oil) di Desa Lelato Kec. Sumalata Kab. Gorontalo Utara. *Jurnal Insan Cita*. *2(2)*, 1-9. From: <https://jurnal.unigo.ac.id/index.php/insancita/article/view/1138>
- Nurlia, N., & Atika Tilaar. (2021). Pelatihan Pembuatan

- Virgin Coconut Oil (VCO) bagi Masyarakat Desa Bolobungking. *Jurnal Pengabdian kepada Masyarakat Membangun Negeri*. 5(2), 333-340. From: <http://www.jurnal-umbuton.ac.id/index.php/ppm/article/view/1389>
- Purnawati, A. (2018). Pengaruh Metode Pembuatan Virgin Coconut Oil (VCO) dan Varietas Kelapa Terhadap Karakteristik Virgin Coconut Oil (VCO). UPT Perpustakaan: Universitas Pasundan
- Putri, S., & Ali, A. (2022). Pelatihan Pembuatan Virgin Coconut Oil (VCO) di Desa Bulu Wattang sebagai Tindakan Preventif untuk Menjaga Kesehatan Masyarakat Training on Making Virgin Coconut Oil (VCO) in Bulu Wattang Village as a Preventive Action to Maintain Public Health. 5(1), 8-16.
- Putri, S.P., Rosdiani Azis, Ingka Rizkyani Akolo. (2019). Pelatihan Pembuatan VCO untuk Meningkatkan Penghasilan Masyarakat. *Jurnal Pengabdian dan Pemberdayaan Masyarakat*, 3(2), 197-200. From <https://jurnalnasional.ump.ac.id/index.php/JPPM/article/view/3429/2688>
- Rachmawati, N. A. Marini., M. N. & I. N. (2022). Proyek Penguatan Profil Pelajar Pancasila dalam Implementasi Kurikulum Prototipe di Sekolah Penggerak Jenjang Sekolah Dasar. *Jurnal Basicedubasicedu*, 06(03), 3613- 3625.
- Rahman, S., Palenewen, V. V. J., dan Elly, F. H. (2016). Analisis Kelayakan Agroindustri Virgin Coconut Oil (Studi Kasus Kelompok Tani Anugrah Kelurahan Tandurusa Kecamatan Aertembaga Kota Bitung), *Agri Sosio Ekonomi Unsrat*. 12(3), 132-136
- Rahmawati, E., & Khaerunnisya, N. (2018). Pembuatan VCO (Virgin Coconut Oil) dengan Proses Fermentasi dan Enzimatis. *Journal of Food and Culinary*. 1(1), 1-5. From: <http://www.journal2.uad.ac.id/index.php/jfc/article/view/1575>
- Retno, R. S., Pujiati., dan Utami, S., (2016). Pelatihan Pembuatan Virgin Coconut Oil (VCO) Secara Fermentasi di Desa Belotan, Bendo, Magetan. *Jurnal Terapan Abdimas*. 1(1), 35-37.
- Rifdah, Ani Melani, Aisyah Amini Reformis Intelekt. (2021). Pembuatan Virgin Coconut Oil (VCO) dengan Metode Enzimatis Menggunakan Sari Bonggol Nanas. *Jurnal Patra Akademika*. 12(2). From: <http://jurnal.pap.ac.id/index.php/JTPA/article/view/131>
- Rusnaini., Raharjo., A. S. & W. N. (2021). Intensifikasi Profil Pelajar Pancasila dan Implikasinya Terhadap Ketahanan Pribadi Siswa. *Jurnal Ketahanan Nasional*, 27(02), 230-249.
- Salirawati, D. (2007). *Belajar Kimia Secara Menarik Untuk SMA/MA Kelas XI*, Jakarta: Grasindo.
- Tamzil, A., Yohana, O., Ade Puspita Sari. (2017). Pembuatan virgin coconut oil (vco) dengan metode penggaraman. *Jurnal Teknik Kimia*, 23(2), 129-136.
- Tuti, I.S., Evy Herdiana, Triana Amelia, (2010). Pembuatan VCO dengan Metode Enzimatis dan Konversinya menjadi Sabun Padat Transparan. *Jurnal Teknik Kimia*. 3(17), 50-58. From: <http://jtk.unsri.ac.id/index.php/jtk/article/view/117>
- Wijaya, A. 2007. Kajian Struktur Kelapa Hibrida (*Cocos nucifera* Linn), Skripsi Depatertemen Hasil Hutan, Fakultas Kehutanan Institut Pertanian Bogor.
- Yan Jer., Pei En Tham, Kuan Shiong Khoo, Chin Kui Cheng, Kit Wayne Chew & Pau Loke Show. (2021). A comprehensive review on the techniques for coconut oil extraction and its application. *Bioprocess and Biosystems Engineering*. 44, 1807-1818. From: <https://link.springer.com/article/10.1007/s00449-021-02577-9>
- Zomesh A. Maini, Crisanto M. Lopez. (2022). Transitions in bacterial communities across two fermentation-based virgin coconut oil (VCO) production processes. *Heliyon Journal*. 8 (2022) e10154, 1-13. From; <https://doi.org/10.1016/j.heliyon.2022.e10154>