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Strategic Prioritisation Of Sweet Potato Value Addition: Evidence From Cikarawang Village, Bogor, Indonesia

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Abstract. *Sweet potato is a strategic horticultural commodity in the tropical regions of Indonesia; however, post-harvest loss due to "low-grade" produce that remains unabsorbed by the fresh market remains a significant challenge for farmers in Cikarawang Village, Bogor. This study aims to determine priority strategies for utilising sweet potato (Ipomoea batatas) volumes that are not transported to the market to increase added value and farmer income. The methodology employed was the Analytic Hierarchy Process (AHP) supported by Expert Choice 11 software. Data were gathered through in-depth interviews with six expert respondents, comprising managers of the Farmers' Association (Gapoktan) and various Farmer Groups. The results indicate that the criteria of "Increased Farmer Income" (0.521) and "Business Sustainability" (0.240) are the primary considerations in decision-making. Based on the final synthesis, the strategy of "Sales to Business Operators" in Jakarta and Tangerang emerged as the highest priority. This strategy is considered the most effective for absorbing products that do not meet retail standards, minimising infrastructure capital costs at the village level, and providing sustainable price stability. Integrating smallholder farmers into large-scale food industry supply chains is a key solution for strengthening resilient rural food systems and reducing food loss at the upstream level.*

Keywords: *Agribusiness Development; Income Diversification; Product Processing; Rural Economy; Smallholder Farmers.*

1. INTRODUCTION

Sweet potato (*Ipomoea batatas*) is an essential food commodity in tropical and subtropical regions due to its high nutritional value, broad agroecological adaptation, and role in rural food security. In many developing nations, including Indonesia, sweet potato serves as a source of income for smallholder farmers and possesses significant potential for agribusiness development through processed products. Beyond serving as an alternative carbohydrate source, sweet potato offers substantial opportunities for developing agro-industries based on local commodities and increasing the added value of agricultural produce (Waridin & Al-Hafidz, 2020). Nevertheless, horticultural marketing systems often face challenges regarding market quality standards, which result in a portion of the harvest being unabsorbed by the market. This condition leads to post-harvest loss (PHL), which can reduce farmer income and increase the wastage of agricultural resources. In developing nations, PHL in food commodities generally occurs during the stages of harvesting, post-harvest handling, storage, and distribution due to limitations in technology and supply chain infrastructure (Motsa et al.,

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2024).

Several studies indicate that tuber commodities, such as sweet potato, exhibit high post-harvest vulnerability due to their perishable nature and relatively short shelf life. Research on the sweet potato value chain demonstrates that yield losses can occur from harvesting through to market distribution, resulting from mechanical damage, improper handling, and limited storage facilities (Parmar et al., 2017; Affognon et al., 2015).

One approach widely developed to reduce yield loss while simultaneously increasing the economic value of agricultural commodities is the value addition strategy. Processing agricultural produce into derivative products, such as processed foods or industrial raw materials, can extend product shelf life and create new business opportunities at the village level. The development of agro-industries based on sweet potato has been proven to increase added value and expand market opportunities for local commodities (Brilliantina et al., 2019; Putri et al., 2021; Rahman & Wibowo, 2020). In addition, value-added processing contributes to strengthening rural economies by encouraging employment creation, increasing household income, and supporting local entrepreneurship development (Suryani et al., 2022; Nugroho et al., 2021).

In the context of rural agribusiness, decision-making regarding product processing strategies is influenced not only by economic factors but also by various other considerations, such as capital requirements, local community involvement, and business sustainability. Consequently, a multi-criteria decision making (MCDM) approach is essential to determine the strategy most suitable for the local conditions of farmers. Previous studies have shown that MCDM methods are effective in evaluating agribusiness development alternatives because they can integrate economic, social, technical, and environmental considerations simultaneously (Saaty, 2008; Velasquez & Hester, 2013; Prasetyo et al., 2022).

One widely used method for supporting multi-criteria decision-making is the Analytic Hierarchy Process (AHP). This method enables researchers to evaluate various decision alternatives based on a systematically and structurally determined set of criteria. AHP has been extensively applied in agribusiness research to determine priority strategies for agricultural business development, supply chain evaluation, and product development planning based on local commodities (Harisudin et al., 2023; Bello & Mbhele, 2024).

2. MATERIALS AND METHODS

Study Area And Context

This study was conducted in Cikarawang Village, Bogor Regency, West Java, Indonesia, which is a region characterised by sweet potato cultivation by smallholder farmers. Sweet potato is a horticultural commodity with significant potential for added value through product processing.

In practice, however, a portion of the harvest is not absorbed by the market due to small size or quality that fails to meet marketing standards. This condition results in unsold produce, which potentially causes post-harvest loss (PHL) and reduces farmer income (Affognon et al., 2015; Parmar et al., 2017).

Sample Selection

Study respondents were selected using purposive sampling, which involved the deliberate selection of participants based on their knowledge of and involvement in local sweet potato farming activities. The respondents comprised individuals with a comprehensive understanding of the local agribusiness environment, including the village head, the chair of the Farmer Group, administrators of the Farmers' Association (Gapoktan), and sweet potato farmers.

This approach is commonly used in decision-making analyses based on the Analytic Hierarchy Process (AHP), as the method requires assessments from parties with experience or expertise regarding the problem being analysed (Saaty, 2008; Etikan et al., 2016).

Data Collection

The data used in this study comprise primary and secondary data. Primary data were obtained through structured interviews using an Analytic Hierarchy Process (AHP) questionnaire. The questionnaire contained pairwise comparison questions to assess the importance levels between criteria and between alternatives for sweet potato utilisation. Secondary data were sourced from village documents, agricultural reports, and literature related to sweet potato processing and agribusiness development.

Analytical Hierarchy Process Framework

The first stage in the Analytic Hierarchy Process (AHP) method is to construct a decision hierarchy structure consisting of the goal, criteria, and alternatives. The primary goal of this study is to determine the optimal strategy for utilising sweet potato volumes that are not transported to the market. To achieve this objective, several criteria were established as the basis for the decision-making process: reduction of wasted produce, increased farmer income, capital affordability, village community involvement, and business sustainability.

Subsequently, several alternative strategies for utilising sweet potato unabsorbed by the market were analysed. These include processing sweet potato into flour, developing processed food products, selling to industrial business operators, and collective management through village institutions such as Farmer Groups or Village-Owned Enterprises (BUMDes). The decision-making process in this study was conducted using the Analytic Hierarchy Process (AHP) approach, supported by Expert Choice 11 software. The data analysis followed a systematic procedure to ensure the objectivity of the expert assessments (Saaty, 2008; Ishizaka & Labib, 2011).:

a. Organise the problem into a hierarchical structure comprising the primary goal, assessment criteria, and alternative strategies for the utilisation of sweet potato.
b. Perform comparisons between elements at each level of the hierarchy using the Saaty scale of importance intensity (1–9). Data were collected through in-depth interviews with six expert respondents in Cikarawang Village.
c. Process the pairwise comparison matrices using Expert Choice software to generate priority vectors or the relative weights for each criterion and alternative (Nafi'ah et al., 2021).
d. Verify the Consistency Ratio (CR) values. The software automatically calculates the consistency index to ensure that the CR is ≤ 0.10, confirming that the data are valid for drawing conclusions.
e. Evaluate the extent to which changes in criteria weights influence the final ranking of strategy alternatives to ensure the robustness of the decision outcomes. Utilise hierarchy development techniques to assign weights to the priority vectors.

Assessments provided by experts play a vital role in determining priority scales during the pairwise comparison process. Consequently, a quantitative scale ranging from one to nine is used to describe the level of importance of one element relative to another. The details of this scale are presented in Table 1.

Data consistency within the Analytic Hierarchy Process (AHP) must be carefully monitored; according to Anggraini et al. (2021), collected data must be verified for consistency. Data are considered consistent if they possess a consistency ratio (CR) value of 0.10 or less. If a value exceeds 0.10, the data are inconsistent and the pairwise comparisons must be revised. A necessary condition for improving input data is that the revised values do not necessarily have to shift from one variable to its comparator during the adjustment process.

Table 1. Pairwise comparison scale (Sari 2018)

Intensity of Importance	Definition	Description
1	Equal importance	Two elements contribute equally to the objective.
3	Moderate importance	Experience and judgement slightly favour one element over another.
5	Strong importance	One element is strongly favoured and its dominance is demonstrated in practice.
7	Very strong importance	An element is favoured very strongly; its dominance is demonstrated.
9	Extreme importance	The evidence favouring one element over another is of the highest possible order of affirmation.
2, 4, 6, 8	Intermediate values	Used when a compromise is needed between two adjacent judgements.

3. RESULTS AND DISCUSSION

Respondent characteristics

Data analysis was conducted using Expert Choice 11 software, involving six expert respondents. The experts were selected purposively, consisting of one head of the Farmers' Association (Gapoktan) and five heads of Farmer Groups (Poktan) representing each neighbourhood unit (RT) in Cikarawang Village. These respondents have an average of over 10 years of experience in sweet potato cultivation and are recognised as authority figures by the village head. The involvement of these local leaders is crucial in the Analytic Hierarchy Process (AHP) method, as they possess a holistic understanding of supply chains, capital constraints, and rural socio-economic dynamics (Saaty, 2008).

Consistency Ratio and Model Validity

Based on logical consistency testing, all assessment results showed a Consistency Ratio (CR) of 0.06, which is below the 0.10 threshold. This indicates that expert perceptions regarding the criteria and alternative strategies for the utilisation of sweet potato are consistent and reliable for further analysis (Saaty, 1993; Anggraini et al., 2021).

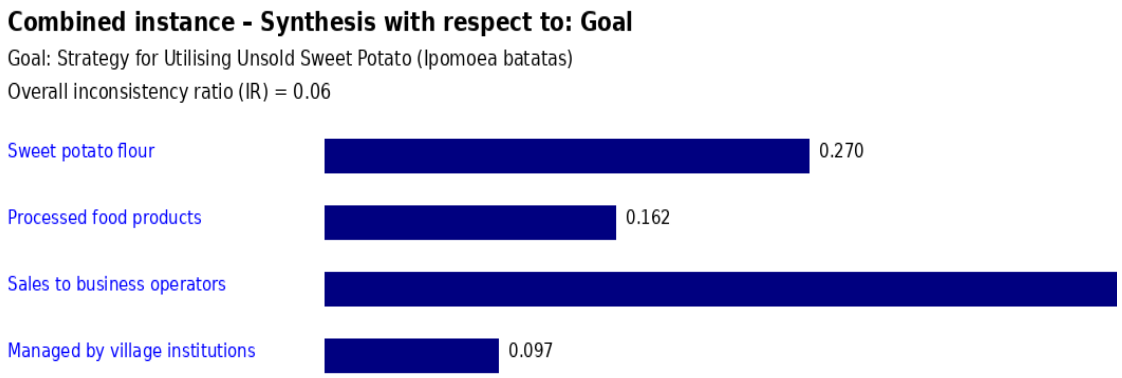

Figure 1. Bar graph of each alternative.

Hierarchy of Priorities for Sweet Potato Utilization

The hierarchical structure in this study evaluates five primary criteria relevant to the resilience of the local food system: Reduction of Wasted Produce, Income Increase, Capital Affordability, Community Involvement, and Business Sustainability. The weighting results indicate that the criteria of Farmer Income Increase (0.521) and Community Involvement (0.240) are the top priorities (Table 2).

Table 2. Priority weights for each criterion.

Criterion	Weight	Priority
Wasted Produce	0.040	5
Income	0.521	1
Capital	0.067	4
Community Involvement	0.240	2

These findings demonstrate that while environmental aspects, such as waste reduction, continue to be considered, the primary priority remains direct economic value. This aligns with previous research indicating that smallholder farmers tend to prioritise strategies that yield short-term income impacts (Hasyim, 2012).

Strategic Alternatives

Based on the final synthesis, the "Sales to Business Operators" strategy was identified. This finding is supported by empirical field evidence confirmed by the head of the Cikarawang Village Farmers' Association (Gapoktan). He stated that strategic cooperation has been established between farmer groups and the sauce processing industry in Jakarta and Tangerang to absorb sweet potato harvests regularly. The relevance between the criteria and these

alternatives is explained as follows:

Relationship between Alternatives and Income

Sales to the processing industry provide price stability for "low-grade" sweet potato—specifically small or irregular roots—which typically lack bargaining power in the retail market. The sauce industry does not require perfect physical appearance but focuses instead on starch content. Consequently, produce that is usually wasted can be converted into revenue for farmers.

Relationship with Capital Affordability

Compared to establishing independent post-harvest processing units within the village, direct sales to sauce factories require minimal capital. Farmers only need to organise collective logistics through the Gapoktan, avoiding the necessity of purchasing expensive production equipment.

Relationship with Sustainability

Demand from the processing industries in Jakarta and Tangerang is continuous and substantial. This ensures the sustainability of sweet potato farming in Cikarawang, as the risk of untransported produce (waste) is significantly reduced (Sudrajat et al., 2016).

Although local processing alternatives by Women Farmers' Groups (KWT) offer high potential for community involvement, the experts assessed that the stability of large-scale industrial market absorption is far more capable of sustaining the village economy in the long term. Sales to sauce factories effectively close the food loss gap in the upstream sweet potato supply chain.

Table 3. The weight of each alternative supplier

Alternative	*Weight*	*Priority*
Sweet Potato Flour	0.223	2
Processed Products	0.115	3
Sales to Business	0.615	1
Manage by Village	0.048	4

Synthesis based on criteria

Further analysis indicates that the links between alternative strategies and each criterion produce a consistent pattern; specifically, the strategy of selling to business actors outperforms others in almost all key aspects, with the exception of the social dimension regarding community involvement.

In the context of increasing farmers' income, the strategy of selling to business actors demonstrates significant dominance with a weight of 0.641. This indicates that direct market mechanisms provide the greatest contribution to income growth compared to other alternatives. Selling to industry allows farmers to sell products more rapidly without incurring additional costs, such as processing, storage, or further distribution. Furthermore, the processing industry tends to accept sweet potatoes with a wider variation in quality, allowing products that previously lacked market value to be monetised.

Table 4. Relationship between alternatives and income growth criteria

Alternative	Weight	Priority
Sweet Potato Flour	0.227	2
Processed Products	0.082	3
Sales to Business	0.641	1
Manage by Village	0.049	4

Regarding the criterion of village community involvement, processing alternatives such as sweet potato flour (0.325) and processed food products (0.270) demonstrate a higher contribution than direct sales strategies. This is due to the more labour-intensive nature of processing activities, which involve various local actors, including women farmers' groups and small rural businesses. These activities create employment opportunities and increase community participation within the agribusiness value chain. In contrast, direct sales strategies tend to be simpler and do not require significant additional labour, resulting in relatively lower levels of community involvement.

Table 5. Relationship between alternatives and community involvement criteria

Alternative	*Weight*	*Priority*
Sweet Potato Flour	0.325	1
Processed Products	0.270	2
Sales to Business	0.234	3
Manage by Village	0.171	4

Regarding the aspects of business sustainability, the strategy of selling to business actors is once again the superior alternative, with a weight of 0.615. This indicates that the business sustainability of farmers depends heavily on market demand stability. The processing industry requires a continuous supply of raw materials on a large scale, thereby ensuring the long-term viability of the farmers' businesses. Conversely, local processing often faces limitations in production capacity and market access, which can hinder business sustainability.

Table 6. Relationship between alternatives and business sustainability criteria

Alternative	*Weight*	*Priority*
Sweet Potato Flour	0.223	2
Processed Products	0.115	3
Sales to Business	0.615	1
Manage by Village	0.048	4

Regarding capital affordability, the direct sales strategy again demonstrates the highest efficiency, with a weight of 0.481. This is due to the minimal initial investment required for this strategy. Farmers do not need to incur costs to purchase processing equipment or construct production facilities. In contrast, processing alternatives require relatively large capital, which represents the primary constraint for their implementation at the village level.

Table 7. Relationship between alternatives and capital affordability criteria

Alternative	*Weight*	*Priority*
Sweet Potato Flour	0.282	2
Processed Products	0.115	3
Sales to Business	0.481	1
Manage by Village	0.081	4

Furthermore, regarding the criterion of waste reduction, the strategy of selling to business actors demonstrates the highest effectiveness, with a weight of 0.511. This reflects the industry's capacity to absorb products of varying quality levels, thereby reducing potential post-harvest loss (PHL) at the farmer level. Through this alternative market, products that previously lacked market value can be utilised optimally.

Table 8. Relationship between alternatives and waste reduction criteria

Alternative	**Weight**	**Priority**
Sweet Potato Flour	0.312	2
Processed Products	0.122	3
Sales to Business	0.511	1
Manage by Village	0.55	4

Overall, the synthesis results indicate that market-based strategies offer comprehensive advantages, encompassing economic aspects, efficiency, and sustainability. Although local processing alternatives excel in increasing community involvement, limited capital and market access remain the primary constraining factors. Consequently, in the context of Cikarawang Village, the strategy of selling to business actors is the most rational and optimal choice for increasing the added value of sweet potatoes and strengthening the rural agribusiness system.

DISCUSSION

The results of this study indicate a shift in orientation from basic cultivation to value-added management within the sweet potato supply chain in Cikarawang Village. The predominant choice to sell to the processing industry in the Jabodetabek (Jakarta, Bogor, Depok, Tangerang, and Bekasi) region is driven by geographical proximity and high demand for food industry raw materials. This aligns with previous findings suggesting that integrating smallholder farmers with the processing industry can mitigate market failure risks (Hasyim, 2012). Utilising sweet potatoes as raw material for the sauce industry serves as a strategic solution to address the issue of "untransported sweet potatoes". In Cikarawang Village, harvests frequently result in surplus produce that does not meet modern retail standards. By linking farmers directly to sauce factories, economic efficiency is enhanced as the entire harvest can be accumulated into income. Previous research in the Cikarawang region also notes that the presence of farmer institutions, such as the *Gabungan Kelompok Tani* (Gapoktan; Association of Farmer Groups), is crucial for negotiating contracts with industrial partners (Sudrajat et al., 2016).

However, dependence on sauce factories located outside the local area presents challenges regarding logistics costs. Although the Analytical Hierarchy Process (AHP) scores indicate that this is the optimal pathway for increasing income, the sustainability of this strategy requires adequate transport infrastructure support. Compared to other studies on the diversification of sweet potato products at a local level, direct sales to large-scale industries are considered more practical by Cikarawang farmers, as they do not require significant capital investment for processing equipment at the village level (Sumardjo & Syahyuti, 2014).

Discussions with the heads of the *Kelompok Tani* (Poktan; Farmer Groups) revealed that quality standardisation at sauce factories is less stringent than in supermarkets. This presents a significant opportunity for farmers to market "grade B" products. Such integration creates a circular economy system at the rural level, where agricultural waste is minimised and farmer income is optimised through the diversification of distribution channels (Wulansari et al., 2020).

4. CONCLUSION

This study concludes that the priority strategy for increasing the value-added of sweet potatoes in Cikarawang Village is through partnerships with the food processing industry, specifically sauce factories in Jakarta and Tangerang. Based on the Analytical Hierarchy Process (AHP) analysis with input from expert farmers, this alternative achieved the highest

score due to its ability to provide price certainty and absorb sweet potatoes that do not meet fresh market quality standards.

This utilisation significantly contributes to the increase in farmer household income and reduces potential post-harvest losses. As a policy implication, the Bogor Regency Local Government and the management of the *Gabungan Kelompok Tani* (Gapoktan; Association of Farmer Groups) need to strengthen Memorandums of Understanding (MoU) with industrial partners to ensure supply sustainability and price stability. Future research is suggested to analyse the efficiency of logistics costs in transporting sweet potatoes from Cikarawang to industrial centres around Jakarta to refine this supply chain strategy.

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REFERENCES

Affognon, H., Mutungi, C., Sanginga, P., & Borgemeister, C. (2015). Unpacking postharvest losses in sub-Saharan Africa: A meta-analysis. World Development, 66, 49-68. https://doi.org/10.1016/j.foodpol.2014.12.002

Bello, A., & Mbhele, T. P. (2024). Multi-criteria decision-making in agricultural supply chain management. Sustainability, 16(5), 1751. https://doi.org/10.3390/su16051751

Brilliantina A., Kuswardhani, N., & Mutmainnah, S. (2019). Development of sweet potato agro-industry as an effort to increase the added value of local commodities. Proceeding of the 2nd International Conference on Food and Agriculture. https://publikasi.polije.ac.id/index.php/ProceedingICOFA/article/view/1882

Brilliantina, A., Novitasari, E. K., Pratiwi, B. Y., & Sasmita, I. R. A. (2019). Value-added analysis of sweet potato chips processing in Jember Regency. *Proceeding of the 1st International Conference on Food and Agriculture*. https://publikasi.polije.ac.id/index.php/ProceedingICOFA/article/view/1882

Etikan I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. American Journal of Theoretical and Applied Statistics, 5(1), 1–4. https://doi.org/10.11648/j.ajtas.20160501.11

Harisudin, M., Utami, B. W., & Rahayu, W. (2023). Priority strategies for agricultural business development using AHP. International Journal on Advanced Science, Engineering and Information Technology, 13(1), 256-263. https://doi.org/10.18517/ijaseit.13.1.17151

Ishizaka, A., & Labib, A. (2011). Review of the main developments in the analytic hierarchy process. Expert Systems with Applications, 38(11), 14336-14345. https://doi.org/10.1016/j.eswa.2011.04.143

Ma, D. (2019). Global market trends, challenges, and the future of the sweet potato processing industry. In T. Mu & J. Singh (Eds.), *Sweet potato: Chemistry, processing and nutrition* (pp. 381–392). Academic Press. https://doi.org/10.1016/B978-0-12-813637-9.00014-4

Motsa, N. M., Modi, A. T., & Mabhaudhi, T. (2024). Sweet potato (Ipomoea batatas L.) post-harvest loss in food systems. African Journal of Food, Agriculture, Nutrition and Development, 25(3). https://www.ajfand.net/Volume25/No4/Motsa25030.pdf

Ni Luh Gede Dyana Pandu Widjayanti, & Anak Agung Istri Ngurah Marhaeni. (2025). Factors Affecting the Working Hours of the Elderly in the Agricultural Sector in Buduk Village, Mengwi District. EPaper Bisnis : International Journal of Entrepreneurship and Management , 2(3), 15–22. https://doi.org/10.61132/epaperbisnis.v2i3.424

Oke, M. O., & Workneh, T. S. (2019). A review on sweet potato postharvest processing and preservation technology. *International Journal of Agricultural Sciences, 9*(9), 1–14.

P., Vithu, Dash, S. K., & Rayaguru, K. (2019). Post-harvest processing and utilization of sweet potato: A review. *Food Reviews International*, *35*(8), 726–762. https://doi.org/10.1080/87559129.2019.1600540

Parmar, A., Sturm, B., & Hensel, O. (2017). Crops that feed the world: Production and improvement of sweet potato, for food and nutrition security. Food Security, 9(5), 1087–1101. https://doi.org/10.1007/s12571-017-0718-7

Saaty, T. L. (2008). Decision making with the analytic hierarchy process. International Journal of Services Sciences, 1(1), 83–98 https://doi.org/10.1504/IJSSCI.2008.017590

Saaty, T. L. (2008). Decision making with the analytic hierarchy process. *International Journal of Services Sciences, 1*(1), 83–98. https://doi.org/10.1504/IJSSCI.2008.017590

Sudrajat S., Sumardjo, S., & Syahyuti, S. (2016). Analisis rantai pasok ubi jalar di Desa Cikarawang, Kecamatan Dramaga, Kabupaten Bogor. Jurnal Agribisnis Indonesia, 4(2), 121-134. https://journal.ipb.ac.id/index.php/jagbi

Velasquez, M., & Hester, P. T. (2013). An analysis of multi-criteria decision making methods. *International Journal of Operations Research, 10*(2), 56–66.

Waridin, W., & Al-Hafidz, M. S. (2020). Sweet potato value chain: Evidence from Central Java. Journal of Economics and Business, 24(1). https://doi.org/10.24914/jeb.v24i1.3166

Wulansari, R., Sayekti, A., & Santoso, P. (2020). Kelembagaan dan peningkatan nilai tambah komoditas unggulan di Desa Cikarawang. Jurnal Pusat Inovasi Masyarakat, 2(5), 843-849. https://journal.ipb.ac.id/index.php/pim

Ye, F., Xiao, L., Liang, Y., Zhou, Y., & Zhao, G. (2019). Spontaneous fermentation tunes the physicochemical properties of sweet potato starch by modifying the structure of starch molecules. *Carbohydrate Polymers*, *213*, 79–88. https://doi.org/10.1016/j.carbpol.2019.02.077