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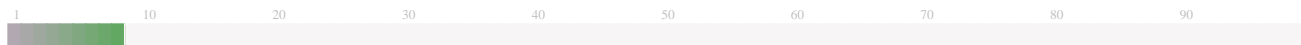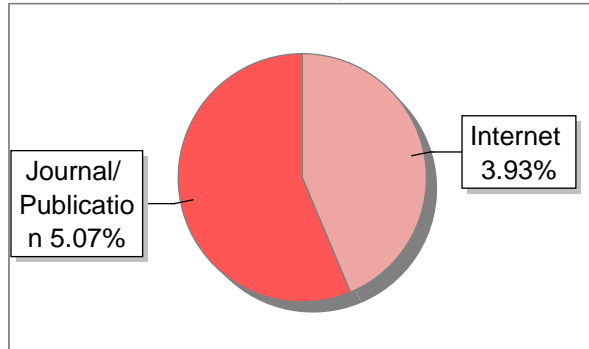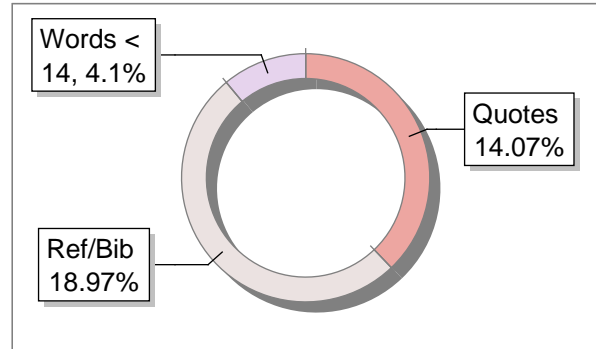|	
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Food Safety and Halal Issues in Food Aggregator Applications: "A Consumer's Point of View"

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Abstract

Food delivery services are developing significantly, especially during the COVID-19 pandemic. Food aggregator application is one of the online systems which enables customers to order delivery food from several food providers. This application was made as a simple app to make it easy to use by customers. In addition, it also makes it easier for food producers to sell their products. However, it has its limitation in which the consumers do not know the safety and halal status of the products offered in this application. This research aimed to understand the consumers' perceptions of the food's safety and halal status in this food delivery system. This descriptive-qualitative research was held in January - February in DIY through in-depth interviews using an online meeting platform. The results showed that the consumers believe that the products sold in the aggregator application are safe and halal. The consumer's choice and trust depended on the restaurant's rating, products' photos, and their taste. In the product's safety context, the consumers justified the product quality from its packaging. As for the halal label of the product, the consumers believe that the product is halal if there is no information that these products contain non-halal ingredients.

Keywords: *Food Aggregator Application, Consumer, Food Safety, Halal Food*

1. INTRODUCTION

As a result of the termination of employment, many new MSMEs in Daerah Istimewa Yogyakarta (DIY) were built as an alternative source of financial income. The highest increase in MSMEs was in the food and beverage business sector, in which businesses in the food sector remarked by 350% increase and herbal food products by 200% (Rosita, 2020). Culinary is one of the fastest-development businesses in recent years that could generate large profits. In Indonesia, this business provides a sizeable contribution to the creative economy sector up to 34% (Tumpuan, 2020). Culinary business is also supported by technology and information systems. One of them is e-commerce with an e-marketplace model. The concept of an e-marketplace is like a traditional market where there are sellers and buyers, but it is conducted in an online setting. An e-marketplace provider works as an intermediary that provides a place for sellers and buyers to carry out buying and selling transactions (Kurnia et al., 2017). The internet has also encouraged the online food delivery system to expand. It makes it easy for consumers to access, search, and compare prices on various culinary products (Dang et al., 2018). The aggregator application is an online food delivery service application that provides convenience in food buying for consumers. They only need to use a smartphone to order food easily from the various restaurants they want. This application helps the culinary sector entrepreneurs to deliver the ordered food from the production site to customers' houses (Kapoor & Vij, 2018).

The growth of the number of MSMEs today makes them compete to provide services that satisfy customers. Especially during the Covid-19 Pandemic, consumers tend to choose products with safety and halal guaranty that provide huge potential for MSMEs

to produce quality products (Muhamad, 2020). Food safety regulations on MSME products are stated in the Government Regulation of the Republic of Indonesia Number 86 of 2019, which contains accredited food safety certification (The Government of Indonesia, 2019). Meanwhile, regulations for halal products are listed in Act No. 33 of 2014 stated that all products must be certified for halal status (Pemerintah RI, 2014).

A food product is declared safe if the food product is free from various contaminants such as physical contamination, chemical contamination, and microbiological contamination (Zaini et al., 2019). The Indonesian government also has the responsibility for providing safe, nutritious, and quality food, all of which are stated in Government Regulations (Sartika, 2020). In Islamic Sharia law, food products are declared halal by fulfilling provisions such as products not containing non-halal parts of animals or haram products, animals slaughtered in the name of Allah, in the preparation stage the ingredients are not prepared or produced using tools or equipment that is contaminated or used with non-Halal materials, and during the stages of the process of preparation, manufacture, packaging, storage and distribution of the product must be physically separated between halal and non-halal products (Talib & Johan, 2012).

However, it is known that the level of awareness of MSME actors, especially those engaged in the culinary sector, is still low on the application of food safety standards for the products they sell (Pritanova P et al., 2020). In addition, the level of public knowledge and awareness regarding halal products in Indonesia is still low, this is known because people think that all products sold in Indonesia are halal products because most Indonesians are Muslims (Akim; Konety, Neneng; Purnama, Chandra; Adilla, 2018).

On the other hand, the level of consumer trust in the products sold in the aggregator application is quite large. The consumer is seen from safety in terms of food safety, which can be seen in the food they order is still sealed and neatly packed (Vincentius & Putranto, 2020). Also, the consumers' perception of food safety certification, has a significant impact on consumers' desire to buy the products. Certified products provide essential guarantees for consumers of products safety(Liu et al., 2020).

Based on limited research examining the safety and halal category of food in the aggregator application during the pandemic, the researchers conducted research aimed to know how far the customer trust on the food aggregator applications and explore further the safety and halal category of food sold in the aggregator application from a consumer's point of view, especially during the pandemic.

2. METHODS

This research was a descriptive qualitative research design. The participants in this study were consumers who usually order food using an aggregator application, determined by inclusion criteria: living in DIY and using an aggregator application before and during the pandemic. Data was collected using the purposive sampling method in January - February 2021. The triangulation method was applied by interviewing the food producers who use aggregator applications and food safety and halal experts. The research was conducted through in-depth interviews using online platform meetings. The consent procedures were delivered before the interview. The respondents who agreed to the terms were asked to sign a digital informed consent form.

3. RESULTS AND DISCUSSION
3.1. Respondents' Characteristics

Respondents in this study consisted of ten persons consist of 7 customers who met the inclusion criteria, a seller, a food safety expert, and another halal food expert.

3.2. Consumer Perceptions of the Development of the Online Food Business During the Covid-19 Pandemic

Respondents in this study argued that the online food business using an aggregator application has been known since 2019 in DIY. Also, the respondents felt that this system was very helpful, especially during the COVID-19 pandemic.

" Selama Pandemi COVID-19 ini, saya jarang keluar, dan kalau saya gak memasak, saya biasanya ngandelin aplikasi itu. Apalagi karena COVID jadi saya makin sering, mesen makanan di aplikasi "-AD. Konsumen-

"During this Pandemic COVID-19, I rarely come out, and if I do not cook, I will rely on that. Especially since COVID outbreak, I use it more frequently, I always order some food in the application "-AD. Consumers-

"Bisnis makanan online sekarang meningkat pesat, apalagi sejak pandemi. Semua orang mulai buka toko online. Jadi mempermudah saya juga, paling ga dalam sehari saya beli makanan secara online"-RS. Konsumen –

"*Online food business increase rapidly nowadays, especially since the pandemic. Everyone began to open online shops. So, it is easier for me, at least each day I will buy it (food) by online (once)" -RS. Consumers –*

"Apalagi sekarang kalau kerja di rumah gak bisa kemana-mana, jadi sering mulai pakai layanan makanan online di aplikasi" -RR. Konsumen-
"Especially now, when I work from home (WFH), I can't go anywhere, so I start to use food delivery services (more) often in the application" -RR. Consumer-

Before ordering food from the aggregator application, the respondents usually look at the food to be ordered through the photos, ratings from other consumers, and promos offered by producers.

"Biasanya saya sortir ratingnya, terus lihat harganya, ada promo yang pas atau ngga. Kalau saya, minimal ratingnya 4,4 lah"-AS. Konsumen-
"Usually I sort out the rating, keep looking at the price, whether the promo is right or not. For me, at least the rating is 4.4 " -AD. Consumer-

"Biasanya kalau saya lihat fotonya, terus lihat ratingnya. Karena kita gak bisa liat kolom komentar, kalau rating acak, setidaknya peringkatnya 4,5 ke atas". - RS. konsumen-
"I usually look at the photos, keep looking at the ratings. Because we cannot see the comments, if the rating is random, at least the rating is 4.5 or beyond". - RS. Consumers-

"Ya pasti dong, biasanya saya liat dari reputasi penjual atau produsennya". -RR. Konsumen-
"Of course, I will definitely look at the seller or producer reputation -RR. Consumers-

3.3. Consumer Perceptions of Online Food Safety Risks During the Covid-19 Pandemic

The COVID-19 pandemic that has been running for a year also change how food producers sell their products. The online food sales system through an aggregator application has increased. Based on the results of interviews conducted with consumers, producers, and food experts, there are several differences in perceptions in terms of food safety. From the consumers' point of view, they think that food is safe based on its packaging. The level of consumer trust in the products sold in the aggregator application is quite significant.

"Saya sih percaya aja. Menurut saya, kalau pake aplikasi go-jek saya anggapnya toko itu udah di survey sama pihak gojeknya. Intinya semua makanan yang dijual di aplikasi gojek atau grab udah melewati pengecekan kualitas"
""I believe in that. If I use Go-jek application, I assume that the shop was surveyed by the Go-jek. All the food that were displayed in the aggregator application, such as Go-jek or Grab means that the products have passed the quality control". - AD. Consumers -

"Pertama saya liat dulu reputasi dari penjual. Mulai dari cara ngemasnya, penjual akan kasih sesuatu untuk meyakinkan pembelinya bahwa produk mereka aman". -RR. Konsumen-
"First, I will look at the reputation of this seller. Starting from how the food was packaged, the seller will give you something to convince consumers that their products are safe"-RR. Consumer-

The producers think that their production processes from the preparation stage until the distribution were safe for consumers. Washing their hands is one of the procedures they always do before they start food production, and they always use personal protective equipment (PPE).

"Saya selalu mencuci tangan sebelum berkerja dan menggunakan alat pelindung diri, karena saya khawatir hal serupa menimpa saya". -P. Produsen-
"I always wash my hands before work and use PPE, because I'm afraid that (bad thing) is happen to us. -P. Producer-

"Ya, itu sudah kebiasaan dari dulu, dari jaman ibu saya. Saya cuci dulu semua sebelum masuk ke dalam kulkas. Mulai dari sayuran, saya keringkan sebentar, terus saya masukkan dalam kulkas. Jadi, masuk kulkas udah dalam keadaan bersih". -DW.Produser-

"I do. It has been a long-time habit, since my mother's generation. I wash everything first before they are stored in the refrigerator. Starting from the vegetables, I dry them for a while, then put them in the chiller. So, they are stored in the chiller in a clean condition.". -DW. Producer-

According to a food expert, food is considered a safe product when its producer meets the food safety criteria. It consists of the ingredients, situation, location, tools, and even packaging. While it passed the validation or legalization process and has a certificate, the expert can state that the food produced is safe.

> *"Memang sudah kami himbau ke semua produsen untuk melakukan legalitas dengan cara mendaftarkan sertifikasi keamanan pangan"-GN. Ahli Pangan-*
> *" Indeed, we urge to carry out the legalization process by registrating to the food safety certification" -GN. Food Expert-*

3.4. Consumer Perceptions of Online Food Safety Risks During the Covid-19 Pandemic

Overall, both consumers and producers believe that their products are halal. In addition, based on interview results with several producers, they know about halal certification. However, they decided not to take it due to their financial constraints. So far, producers think that if the raw materials they use are circulated in Indonesia with a BPOM logo, they assume that those products are halal.

> *"Saya menggunakan produk yang berlabelkan BPOM, yang sudah beredar di Indonesia"*
> *"I use products that have the BPOM label, which has been distributed in Indonesia." - EL. Producer"*

> *"Ya mahal. Apalagi kalau setara dengan pabrik. Puluhan juta lho kalau setara dengan pabrik". -DW. Produsen-*
> *"Yes, it's expensive. Especially if it is equivalent to a factory. Ten million (rupiah) if it is equivalent to a factory". - DW. Producer-*

The level of consumer trust in food producers is also considerable. The consumers believe that if there is no information about haram ingredients or status in a product, the product is halal.

> *"Tidak masalah, selama daftar makanannya tidak haram, saya anggap itu halal". -AD. Konsumen-*
> *"No problem, as long as the food list is not haram, I consider it halal". -AD. Consumer-*

> *"Selama mereka tidak menjual makanan dengan bahan baku haram, saya percaya sama mereka. Apalagi kalau penjualnya muslim kan, karena mereka lebih tau dan ga akan pakai bahan haram". -RR. Konsumen-*
> *"As long as they do not sell non-halal ingredients, I trust them. especially when the producer is Muslim because Muslims knew better, he would not use it." - RS. Consumer-. "- RS. Consumer-*

The halal food expert has the perception that currently, MSMEs producers do not have special awareness about halal certification where ownership of halal certification is not only a necessity but can also be an opportunity to increase their profits.

> *"Nah iya betul, masih 50% yang percaya ya setengah-setengahlah …". -RT. Ahli produk Halal*
> *" That is right, there is only 50% who believe, so it still half of them...". -RT. Halal Specialist-*

In line with the consumer's opinion, if producers process halal certification on their products, the producers themselves will ultimately benefit.

> *"Oh ya, itu asalan kenapa. Kalau mereka serius, akan lebih bagus karena kalau konsumen percaya sama produk mereka, itu udah jadi keuntungan buat mereka". -AD. Consumer-*
> *"Oh, that is the reason why if they serious (to take halal certification), it is even better because if consumers trust him, that also will be a benefit for them." -AD. Consumer-*

4. DISCUSSION

It can be seen from the result that consumers' trust in the aggregator application is quite high. However, consumers should pay more attention to several things related to food safety and halalness. It is essential to take the risks of unsafe food which are sold in the food aggregator applications into consumers' consideration. Especially during the COVID-19 pandemic, consumers' concern of food safety and hygiene increased (Naquiah et al., 2021). Several requirements

must be fulfilled to be considered a healthy food, namely that food must be hygienic, safe, and healthy. When consumers decide to buy a product, the main issue that consumers will consider is the hygiene aspect. Consumers hope the food they consume is clean and free from contamination (Sartika, 2020). An unhygienic food will make it is easily contaminated and may harm human health. Food contamination can occur along the food supply chain (Wahyuni et al., 2019). On the other hand, a study conducted (Komalasari & Widiawati, 2020), stated that only 28.04% of traders had good knowledge of food safety, while about 71.96% of street food traders did not know good food safety.

The level of consumer trust in the products sold in the aggregator application is quite high. The research results show that consumers think the products sold in the application have passed a proper selection process. The producers in this study think that safe food could be defined as well-prepared food, and the production workers always wash their hands before production. Meanwhile, according to the regulation of the Government of Indonesia through the Food and Drug Supervisory Agency (BPOM), which stated that to improve food safety, especially in the home industry, regulations are made as stated in the Regulation of the Head of BPOM Number. HK.03.1.23.04.12.2206 Concerning Guidelines for Good Food Production Practices for Home Industries. This regulation contains guidelines that explain the procedures to produce qualified, safe and suitable food for consumption (Komala *et al.,* 2017).

To maintain the level of consumer trust, the Indonesian government must ultimately step in by strengthening the food safety system for online food delivery services. The government can support food safety by facilitating the management of food safety certification, educating sellers about food safety standards, and facilitating supervision and tracing of food safety issues (Aprilianti & Amanta, 2020).

At present, consumption of halal food is important because it is related to quality, cleanliness and food safety as emphasized by Sharia principles. Halal food products involve the entire supply chain network directly from the origin of the food to being served to consumers (Naquiah et al., 2021). The product's halal certification works as a business trademark and as a guaranty label for consumers. (Talib & Johan, 2012). Halal certification on food products is very significant with the willingness of

consumers to buy these products because consumers really pay attention to the religious side and ingredients of these products (Ahmad et al., 2017). In line with consumer perceptions that consumers pay attention to the ingredients used by producers, if the product is not made with haram ingredients, it means that the product is halal.

The producer's halal certificate can also maintain the consumer's trust. Besides, the producers can also expand product marketing and increase business turnover. Further, the product's halal certificate ownership is also a form of following the principles of Islamic business manner (Khairunnisa et al., 2020). However, the ownership of a halal certificate for the producers who sell products in the aggregator application is not proportional to their large number of sellers. Consumer trust is motivated by the belief that Indonesia is a Muslim majority country so that the products sold in Indonesia are considered halal foods. This point of view is in line with research conducted by (Huda, 2012), which explained that producers are still not familiar with the halal certification regulations issued by MUI. Based on research, to develop and provide facilities for the advancement of MSME products, particularly to assist MSME players in producing halal-certified products, the Government should facilitate a free administrative assistance program to obtain halal-certified legality (Armiani *et al.,* 2021).

5. CONCLUSION

To conclude, the level of consumer trust in producers who sell products in the food aggregator application is high. The consumers in this study believe that the offered products in this application are considered safe and halal. To maintain this level of trust, the producers need to process the legalization step for their food products. It consists of safe and halal certifications issued by authorized institutions in Indonesia.

6. REFERENCES

Ahmad, A. N., Abdul Rahman, R., Othman, M., & Ungku Zainal Abidin, U. F. (2017). Critical success factors affecting the implementation of halal food management systems: Perspective of halal executives, consultants and auditors. *Food Control*, *74*, 70–78. https://doi.org/10.1016/j.foodcont.2016.11.031

Akim; Konety, Neneng; Purnama, Chandra; Adilla, M. H. (2018). The Understanding of Usaha Mikro, Kecil Dan Menengah (UMKM) in Jatinangor on the Obligation of Halal Certification on Food Products. *Kumawula: Jurnal Pengabdian Kepada Masyarakat*, *1*(1), 31–49. http://jurnal.unpad.ac.id/kumawula/index

Aprilianti, I., & Amanta, F. (2020). Makalah Kebijakan No.28: Memajukan Keamanan Pangan pada Layanan Pesan Antar Makanan Daring di Indonesia. *Center for Indonesian Policy Studies*, *28*, 7. https://repository.cips-indonesia.org/publications/324009/memajukan-keamanan-pangan-pada-layanan-pesan-antar-makanan-daring-di-indonesia

Armiani, Basuki.B., Nurrahmadi, S., *et al.* (2021). Sertifikat Halal Menjadi Strategi Pemasaran Bagi Umkm Nonmuslim dalam Meningkatkan Penjualan. Prosiding Seminar Stiamani Vol 8, No 1

Dang, A. K., Tran, B. X., Nguyen, C. T., Le, H. T., Do, H. T., Nguyen, H. D., Nguyen, L. H., Nguyen, T. H., Mai, H. T., Tran, T. D., Ngo, C., Vu, T. T. M., Latkin, C. A., Zhang, M. W. B., & Ho, R. C. M. (2018). Consumer preference and attitude regarding online food products in Hanoi, Vietnam. *International Journal of Environmental Research and Public Health*, *15*(5). https://doi.org/10.3390/ijerph15050981

Eye, S., & Prevention, D. (2021). 儿童青少年近视防控需要更高质量的研究证据 *1*, *2* *3*. *8*(February), 1–27.

Huda, N. (2012). Pemahaman Produsen Makanan tentang Sertifikasi Halal (Studi Kasus di Surakarta). *Ishraqi*, *10*(1), 1–13.

Kapoor, A. P., & Vij, M. (2018). Technology at the dinner table: Ordering food online through mobile apps. *Journal of Retailing and Consumer Services*, *43*(September 2017), 342–351. https://doi.org/10.1016/j.jretconser.2018.04.001

Khairunnisa, H., Lubis, D., & Hasanah, Q. (2020). Kenaikan Omzet UMKM Makanan dan Minuman di Kota Bogor Pasca Sertifikasi Halal. *Al-Muzara'Ah*, *8*(2), 109–127. https://doi.org/10.29244/jam.8.2.109-127

Komalasari, E., & Widiawati, D. (2020). Tingkat Kepatuhan Pedagang Pangan Jajanan terhadap Cara Produksi Pangan yang Baik. *JURNAL Al-AZHAR INDONESIA SERI SAINS DAN TEKNOLOGI*, *5*(3), 130. https://doi.org/10.36722/sst.v5i3.375

Komala, I.S, Widajanti *et al.* (2017). Cara Produksi Pangan Yang Baik Untuk Industri Rumah Tangga (Cppb-Irt) Perusahaan Tahu Putih "Sl" Kabupaten Semarang Tahun 2017. Jurnal Kesehatan Masyarakat Vol 5 No 4.

Kurnia, A., Pradana, A., Nurfarida, E., Kediri, P., & Kediri, I. P. (2017). *PEMASARAN SECARA ONLINE USAHA MAKANAN BAYI DAN ANAK MENGGUNAKAN MARKETPLACE Perkembangan bisnis e-commerce di Indonesia bisa dikatakan mengalami perkembangan yang sangat pesat . Beberapa tahun terakhir seperti menjadi trend di masyarakat bahwa bisnis onli*. *3*, 149–162.

Liu, R., Gao, Z., Snell, H. A., & Ma, H. (2020). Food safety concerns and consumer preferences for food safety attributes: Evidence from China. *Food Control*, *112*(September 2019), 107157. https://doi.org/10.1016/j.foodcont.2020.107157

Masyarakat, J. K. (2017). Cara Produksi Pangan Yang Baik Untuk Industri Rumah Tangga (Cppb-Irt) Perusahaan Tahu Putih €Œsl€ Kabupaten Semarang Tahun 2017. *Jurnal Kesehatan Masyarakat (e-Journal)*, *5*(4), 690–697.

Muhamad, M. (2020). Tantangan Dan Peluang Penerapan Kebijakan Mandatory Sertifikasi Halal (Studi Implementasi Uu No. 33 Th. 2014 dan Pp No. 31 Th. 2019). *Jurnal Ilmu Ekonomi Dan Bisnis Islam*, *2*(2), 1–26. https://doi.org/10.24239/jiebi.v2i2.29.1-26

Naquiah, N., Nizar, A., Aimi, S., & Zainal, S. (2021). Online Food Delivery Services : Make or Break the Halal Supply Chain ? *Journal of Food and Pharmaceutical Sciences*, *9*(1), 378–388.

Pemerintah RI. (2014). *UU RI Nomor 33 Tahun 2014 Tentang Jaminan Produk Halal*. 1–27.

Pritanova P, R., Muhandri, T., & Nurjanah, S. (2020). Karakteristik dan Pemenuhan CPPOB Pelaku UMKM Online Produk Olahan Beku Daging Sapi dan Ayam di DKI Jakarta. *Jurnal Ilmu Produksi Dan Teknologi Hasil Peternakan*, *8*(3), 102–108. https://doi.org/10.29244/jipthp.8.3.102-108

Rosita, R. (2020). Pengaruh Pandemi Covid-19 Terhadap Umkm Di Indonesia. *Jurnal Lentera Bisnis*, *9*(2), 109. https://doi.org/10.34127/jrlab.v9i2.380

Sartika, R. S. (2020). Keamanan Pangan Penyelenggaraan Makanan bagi Pekerja. *Jurnal Gizi Kerja Dan Produktivitas*, *1*(1), 29–35.

Talib, M. S. A., & Johan, M. R. M. (2012). Issues in Halal Packaging: A Conceptual Paper. *International Business and Management*, *5*(2), 94–98. https://doi.org/10.3968/j.ibm.1923842820120502.1080

Tumpuan, A. (2020). *PERANAN APLIKASI GO FOOD TERHADAP PERKEMBANGAN*. *3*(01), 26–30.

Vincentius, V., & Putranto, L. S. (2020). Analisis Pengaruh Layanan Pesan Makanan Online Terhadap Perjalanan Berbasis Rumah Dan Berbasis Tempat Aktivitas. *JMTS: Jurnal Mitra Teknik Sipil*, *3*(4), 1003. https://doi.org/10.24912/jmts.v3i4.8391

Wahyuni, H. C., Sumarmi, W., & Saidi, I. A. (2019). Analisis Persepsi Konsumen Terhadap Aspek Risiko Keamanan Pangan Pada Sistem Rantai Pasok Makanan. *PROZIMA (Productivity, Optimization and Manufacturing System Engineering)*, *2*(2), 64. https://doi.org/10.21070/prozima.v2i2.2201

Zaini, M. A., Zainuri, Z., Sulastri, Y., Widyasari, R., & Nofrida, R. (2019). Pembelajaran Interaktif Tentang Pangan Aman, Bergizi Dan Halal Bagi Siswa Sekolah Dasar. *Jurnal Ilmiah Abdi Mas TPB Unram*, *1*(1). https://doi.org/10.29303/amtpb.v1i1.13