UNIVERSITAS
GADJAH MADA
**Klasifikasi Tepung Porang, Suweg, dan Talas Murni serta Campuran Secara Non-Destruktif Menggunakan
Spektroskopi Near Infrared**
AJENG SITI ROHMAT, Hanim Zuhrotul Amanah, S.T.P., M.P., Ph.D.; Dr. Sri Rahayoe, S.T.P., M.P.
Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

DAFTAR PUSTAKA

Aenugu, H. P. R., Sathis Kumar, D., Srisudharson, Parthiban, N., Ghosh, S. S., & Banji, D. (2011). Near infra red spectroscopy- An overview. *International Journal of ChemTech Research*, *3*(2), 825–836.

Akbar, A. (2018). Analisis Fisik, Kimia dan Organoleptik Mie Basah Berbasis Umbi Talas (Colocasia Esculenta L). *AGRITEPA*, *IV*(2), 159–170.

Alauhdin, M., Tirza Eden, W., & Alighiri, D. (2021). Aplikasi Spektroskopi Inframerah untuk Analisis Tanaman dan Obat Herbal [Universitas Negeri Semaran]. In *Inovasi Sains dan Kesehatan*. https://doi.org/10.15294/.v0i0.15

Alisaac, E., Behmann, J., Rathgeb, A., Karlovsky, P., Dehne, H. W., & Mahlein, A. K. (2019). Assessment of fusarium infection and mycotoxin contamination of wheat kernels and flour using hyperspectral imaging. *Toxins*, *11*(10), 1–18. https://doi.org/10.3390/toxins11100556

Amanah, H. Z., Rahayoe, S., Harmayani, E., Hernanda, R. A. P., Khoirunnisaa, Rohmat, A. S., & Lee, H. (2024). Construction of a sustainable model to predict the moisture content of porang powder (Amorphophallus oncophyllus) based on pointed-scan visible near-infrared spectroscopy. *Open Agriculture*, *9*(1). https://doi.org/10.1515/opag-2022-0268

Amdani, R. Z., Rahmawati, L., Zahra, A. M., Susanti, N. D., Hariadi, H., & Listanti, R. (2023). The Potency of Visible and Near-Infrared Reflectance Spectroscopy to Profiling and Classify the Common Rice Flour. *IOP Conf. Series: Earth and Environmental Science*, *1168*(012003), 1–7. https://doi.org/10.1088/1755-1315/1168/1/012003

Andarini, Y. N., & Risliawati, A. (2018). Variabilitas Karakter Morfologi Plasma Nutfah Talas (Colocasia esculenta) Lokal Pulau Jawa (Morphological Character Variability of Javanese Local Taro (Colocasia Esculenta) Germplasm). *Bul. Plasma Nutfah*, *24*(1), 63–76.

Andasuryani, A., Aris Purwanto, Y., Wayan Budiastra, I., & Syamsu, K. (2013). Non Destructive and Rapid Analysis of Catechin Content in Gambir (Uncaria gambir Roxb) Using NIR Spectroscopy. *International Journal of Scientific & Engineering Research*, *4*(9), 383–389. http://www.ijser.org

Anderson, N. T., & Walsh, K. B. (2022). Review : The evolution of chemometrics coupled with near infrared spectroscopy for fruit quality evaluation. *Journal of Near Infrared Spectroscopy*, *30*(1), 3–17. https://doi.org/10.1177/09670335211057235

Aouadi, B., Laryea, D., Bosquez, J. P. A., Mariem, M., Kert´esz, I. ´, Bodor, Z., Zaukuu, J. Z., Kovacs, Z., Zaukuu, J.-L. Z., & Kovacs, Z. (2024). Aquaphotomics based screening of tomato powder extracts reveals susceptibility to bulking and coloring agents Istv a. *Food Control*, *157*(110163), 1–10. https://doi.org/10.1016/j.foodcont.2023.110163

Arita Witanti. (2016). Smoothing Data Fluktuatif Dengan Exponential Smoothing Studi Kasus Data Curah Hujan. *Jurnal InFact*, *1*(2), 1–7.

Asemani, M., & Rabbani, A. R. (2020). Journal of Petroleum Science and Engineering Detailed FTIR spectroscopy characterization of crude oil extracted asphaltenes : Curve resolve of overlapping bands. *Journal of*

UNIVERSITAS
GADJAH MADA
**Klasifikasi Tepung Porang, Suweg, dan Talas Murni serta Campuran Secara Non-Destruktif Menggunakan
Spektroskopi Near Infrared**
AJENG SITI ROHMAT, Hanim Zuhrotul Amanah, S.T.P., M.P., Ph.D.; Dr. Sri Rahayoe, S.T.P., M.P.
Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Petroleum Science and Engineering, *185*(May 2019), 106618. https://doi.org/10.1016/j.petrol.2019.106618

Aviana, T., & Loebis, E. . (2017). Pengaruh Proses Reduksi Kandungan Kalsium Oksalat Pada Tepung Talas dan Produk Olahannya. *Journal of Agro-Based Industry*, *34*(1), 36–43.

Baek, I., Lee, H., Cho, B. kwan, Mo, C., Chan, D. E., & Kim, M. S. (2021). *Short-Wave* infrared hyperspectral imaging system coupled with multivariable method for TVB-N measurement in pork. *Food Control*, *124*(December 2020), 107854. https://doi.org/10.1016/j.foodcont.2020.107854

Bala, M., Sethi, S., Sharma, S., Mridula, D., & Kaur, G. (2022). Prediction of maize flour adulteration in chickpea flour (besan) using near infrared spectroscopy. *Journal of Food Science and Technology*, *59*(8), 3130–3138. https://doi.org/10.1007/s13197-022-05456-7

BSc, M. C. F. Y. (2011). An Investigation Of The Biology And Chemistry Of The Chinese Medicinal Plant, Amorphophallus konjac. University of Wolverhampton.

Budiastra, I.W., dan Noviyanti, A. A. (2023). Determination of Chemical Content of Porang Flour (Amorphophallus muelleri blume) by Near Infrared Spectroscopy Determination of Chemical Content of Porang Flour (Amorphophallus Muelleri Blume) by Near Infrared Spectroscopy. *International Conference on Biomass and Bioenergy*, *1187*(012027), 1–8.

Budiastra, I. W., & Noviyanti, A. A. (2023). Determination of Chemical Content of Porang Flour (Amorphophallus Muelleri Blume) by Near Infrared Spectroscopy. *IOP Conference Series: Earth and Environmental Science*, *1187*(1). https://doi.org/10.1088/1755-1315/1187/1/012027

Chairul, & Chairul, S. . (2006). Isolasiglukomanan dari Dua Jenis Araceae : Talas (Colocasia esculenta (L .) Schott) dan Iles-iles (Amorphophallus Campanulatus Blumei) Isolation of Glucomannan from Two Species of Araceae : Talas (Colocasia Esculenta (L.) Schott) and Iles-iles. *Berita Biologi*, *8*(3), 171–178.

Chakraborty, S. K., Mahanti, N. K., Mansuri, S. M., Tripathi, M. K., Kotwaliwale, N., & Jayas, D. S. (2021). Non-destructive classification and prediction of aflatoxin-B1 concentration in maize kernels using Vis–NIR (400–1000 nm) hyperspectral imaging. *Journal of Food Science and Technology*, *58*(2), 437–450. https://doi.org/10.1007/s13197-020-04552-w

Chao, W., Mei, X. U., Wen-ping, L. V, Pei, Q. I. U., Yuan-yuan, G., & Dong-sheng, L. I. (2012). Study on Rheological Behavior of Konjac Glucomannan. *Physics Procedia*, *33*, 25–30. https://doi.org/10.1016/j.phpro.2012.05.026

Dar, A. N. (2021). Principal Component Analysis (PCA) (Using Eigen Decomposition). *Global Scientific Journals*, *9*(7), 240–252. www.globalscientificjournal.com

de Santana, F. B., Mazivila, S. J., Gontijo, L. C., Neto, W. B., & Poppi, R. J. (2018). Rapid Discrimination Between Authentic and Adulterated Andiroba Oil Using FTIR-HATR Spectroscopy and Random Forest. *Food Analytical Methods*, *11*(7), 1927–1935. https://doi.org/10.1007/s12161-017-1142-5

Dwikandana, I. A. ., Damiati, & Suriani, N. . (2018). STUDI EKSPERIMEN

Klasifikasi Tepung Porang, Suweg, dan Talas Murni serta Campuran Secara Non-Destruktif Menggunakan
Spektroskopi Near Infrared
AJENG SITI ROHMAT, Hanim Zuhrotul Amanah, S.T.P., M.P., Ph.D.; Dr. Sri Rahayoe, S.T.P., M.P.
Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

PENGOLAHAN TEPUNG UMBI SUWEG. *Jurnal Bosaparis: Pendidikan Kesejahteraan Keluarga*, *9*(November), 166–177.

Eddy, N. O., Essien, E., Ebenso, E. E., & Ukpe, R. A. (2012). Industrial potential of two varieties of cocoyam in bread making. *E-Journal of Chemistry*, *9*(1), 451–464. https://doi.org/10.1155/2012/635894

Fahri, N., Purwanto, Y. A., & Budiastra, I. W. (2016). Classification of Gedong gincu mango based on ratio sugar acid content using near infrared spectroscopy prediction. *Jurnal Keteknikan Pertanian*, *04*(1), 31–36. https://doi.org/10.19028/jtep.04.1.31-36

Fazeli Burestan, N., Afkari Sayyah, A. H., & Taghinezhad, E. (2021). Prediction of some quality properties of rice and its flour by near-infrared spectroscopy (NIRS) analysis. *Food Science and Nutrition*, *9*(2), 1099–1105. https://doi.org/10.1002/fsn3.2086

Februyani, N., & Zuhriyah, A. (2022). Perbandingan Kadar Senyawa Antioksidan pada Umbi Porang (Amorpophallus Muelleri), Umbi Talas (Colocasia Esculenta), dan Gembili (Dioscorea Esculenta) dengan Menggunakan Metode DPPH. *Open Journal Systems*, *17*(1978), 451–456.

Ferdian, M.A., & Perdana, R.G. (2021). Teknologi Pembuatan Tepung Porang Termodifikasi dengan Variasi Metode Penggilingan dan Lama Fermentasi Processing Technology of Porang Flour Modi Fied With The Variations Of Milling Methods and Long Fermentation. *Jurnal Agroindustri*, *11*(1), 23–31.

Fitriyah, N., & Wahyudi, M. (2022). Efektivitas Penambahan Zat Pengatur Tumbuh pada Stek Mikro Tanaman Porang (Amorphophallus Muelleri Blume) dan Talas Beneng (Xanthosoma undipes K.Koch). *Jurnal Inovasi Pertanian*, *24*(2), 64–72.

Greenacre, M., Groenen, P., Hastie, T., D'Enza, A. I., Markos, A., & Tuzhilina, E. (2023). Principal Component Analysis. *Nature Reviews Methods Primers*, 1–24. https://doi.org/10.1038/s43586-022-00184-w

Haliza, W., Intan, S., & Yuliani, S. (2012). *Penggunaan Mixture Response Surface Methodology pada Optimasi Formula Brownies Berbasis Tepung Talas Banten (Xanthosoma undipes K . Koch) sebagai Alternatif Pangan Sumber Serat*. *9*(2), 96–106.

Harun, H. (2019). Hiperoksaluria primer. *Medika Tadulako*, *6*(2), 1–19.

Haryani, K., Prasetyaningrum, A., Handayani, N. A., Kevin, F., & Nadya, T. (2023). Extraction of Glucomannan from Porang (Amorphophallus oncophyllus) Flour Using Enzymatic Hydrolysis Pretreatment. *International Journal of Chemical and Biochemical Sciences*, *24*(4), 362–368.

Hasbullah, U. H. A., Supriyadi, B., Umiyati, R., & Ujianti, R. M. . (2017). Sifat Fisik dan Kimia Tepung Umbi Suweg (Amorphophallus campamulatus BI) di Jawa Tengah. *Jurnal Pangan Dan Gizi*, *7*(1), 59–65.

Impaprasert, R., Borompichaichartkul, C., & Srzednicki, G. (2014). A New Drying Approach to Enhance Quality of Konjac Glucomannan Extracted from Amorphophallus muelleri a New Drying Approach to Enhance Quality of Konjac Glucomannan Extracted from Amorphophallus Muelleri. *Drying Technology*, *32*, 851–860. https://doi.org/10.1080/07373937.2013.871728

Imran, A., Hasyimuddin, & Nurindah. (2022). Identifikasi jenis tumbuhan talas di

UNIVERSITAS
GADJAH MADA
**Klasifikasi Tepung Porang, Suweg, dan Talas Murni serta Campuran Secara Non-Destruktif Menggunakan
Spektroskopi Near Infrared**
AJENG SITI ROHMAT, Hanim Zuhrotul Amanah, S.T.P., M.P., Ph.D.; Dr. Sri Rahayoe, S.T.P., M.P.
Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Hutan Topidi , Kecamatan. *Filogeni: Jurnal Mahasiswa Biologi*, *2*(2), 59–63.

Indriyani, Gusriani, I., & Mursyd. (2020). Pengaruh Perlakuan Pendahuluan Terhadap Sifat Kimia Tepung Umbi Suweg Yang Dihasilkan. *Jurnal Ilmiah Ilmu Terapan Universitas Jambi*, *4*(2), 81–87.

Ingle, P., Christian, R., Purohit, P., Zarraga, V., & Handley, E. (2016). Determination of Protein Content by NIR Spectroscopy in. *Journal of AOAC International*, *99*(2), 360–363. https://doi.org/10.5740/jaoacint.15-0115

Iskandar, J.M., Prasetyowati, R.E., & Danasari, I.F. (2022). Economic Efficiency of Porang Farming in East Lombok Regency. *Journal Ilmiah Rinjani (JIR)*, *10*(2), 9–16.

Izonin, I., Tkachenko, R., Shakhovska, N., Ilchyshyn, B., & Singh, K. K. (2022). A Two-Step Data Normalization Approach for Improving Classification Accuracy in the Medical Diagnosis Domain. *Mathematics*, *10*(11), 1–18. https://doi.org/10.3390/math10111942

Johnson, J. B. (2020). An overview of near-infrared spectroscopy (NIRS) for the detection of insect pests in stored grains. *Journal of Stored Products Research*, *86*(101558), 1–10. https://doi.org/10.1016/j.jspr.2019.101558

Johnson, J. B., Walsh, K. B., & Naiker, M. (2023a). Assessment of bioactive compounds in faba bean using infrared spectroscopy. *Legume Science*, *5*(4), 1–13. https://doi.org/10.1002/leg3.203

Johnson, J. B., Walsh, K. B., & Naiker, M. (2023b). Infrared Spectroscopy for the Analysis of Bioactive Analytes in Wheat : A Proof-of-Concept Study. *Applied Science*, *13*(8989), 1–20.

Jolliffe, I. T., & Cadima, J. (2016). Principal component analysis : a review and recent developments Subject Areas : Author for correspondence : *Phil. Trans. R. Soc. A*, *374*(20150202), 1–16.

Kaddour, A. A., & Cuq, B. (2011). Dynamic NIR Spectroscopy to Monitor Bread Dough Mixing: A Short Review. *American Journal of Food Technology*, *6*(3), 173–185.

Karamizadeh, S., Abdullah, S. M., Manaf, A. A., Zamani, M., & Hooman, A. (2013). An Overview of Principal Component Analysis. *Journal of Signal and Information Processing*, *04*(03), 173–175. https://doi.org/10.4236/jsip.2013.43b031

Kasno, A., Trustinah, Anwari, M., & Swasono, B. (2006). *Prospek suweg sebagai bahan pangan saat paceklik*. 257–262.

Koswara, S. (2017). *Teknologi Pengolahan Umbi - Umbian Bagian 2 : Pengolahan Umbi Porang*. Bogor Agricultural University.

Kuntoro, Y., Susantoro, T. M., Setiawan, H. L., Firdaus, N., Panuju, P., & Kusumah, E. P. (2020). Pemanfaatan Metode Multispektral Untuk Identifikasi Litologi Pada Eksplorasi Migas. *Lembaran Publikasi Minyak Dan Gas Bumi*, *54*(1), 1–17. https://doi.org/10.29017/lpmgb.54.1.501

Kurniasari, I., Purwanto, Y. A., Budiastra, I. W., & Ridwani, S. (2017). Prediksi Tanin dan Total Padatan Tidak Terlarut Buah Kesemek (Diospyros kaki L.) Menggunakan Spektroskopi NIR. *Jurnal Ketenikan Pertanian*, *5*(3), 245–252.

Kusumasari, S., Eris, F.R., Mulyati, S., & Pamela, V.Y. (2019). Karakterisasi Sifat Fisikokimia Tepung Talas Beneng Sebagai Pangan Khas Kabupaten

UNIVERSITAS GADJAH MADA
Klasifikasi Tepung Porang, Suweg, dan Talas Murni serta Campuran Secara Non-Destruktif Menggunakan Spektroskopi Near Infrared
AJENG SITI ROHMAT, Hanim Zuhrotul Amanah, S.T.P., M.P., Ph.D.; Dr. Sri Rahayoe, S.T.P., M.P.
Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Pandeglang. *Jurnal Agroekotek*, *11*(2), 227–234.

Lasalvia, M., Capozzi, V., & Perna, G. (2022). A Comparison of PCA-LDA and PLS-DA Techniques for Classification of Vibrational Spectra. *Applied Sciences (Switzerland)*, *12*(11). https://doi.org/10.3390/app12115345

Lee, H. V, Hamid, S. B. A., & Zain, S. K. (2014). Conversion of Lignocellulosic Biomass to Nanocellulose : Structure and Chemical Process. *The Scientific World Journal*, *2014*.

Lengkey, L. C. E. C., Budiastra, I. W., Seminar, K. B., & Purwoko, B. S. (2013). Determination of Chemical Properties in Jatropha Curcas L . Seed IP-3P by Partial Least-Squares Regression and Near-Infrared Reflectance Spectroscopy. *International Journal of Agriculture Innovations and Research*, *2*(1), 41–48.

Liang, K., Huang, J., He, R., Wang, Q., Chai, Y., & Shen, M. (2020). Infrared Physics & Technology Comparison of Vis-NIR and SWIR hyperspectral imaging for the non- destructive detection of DON levels in Fusarium head blight wheat kernels and wheat fl our. *Infrared Physics and Technology*, *106*(40), 103281. https://doi.org/10.1016/j.infrared.2020.103281

Litvynchuk, S., Galenko, O., Cavicchi, A., Ceccanti, C., Mignani, C., Guidi, L., & Shevchenko, A. (2022). *Conformational Changes in the Structure of Dough and Bread Enriched with Pumpkin Seed Flour*.

Liu, Y., Liu, Y., Chen, Y., Zhang, Y., Shi, T., & Wang, J. (2019). The Influence of Spectral Pretreatment on the Selection of Representative Calibration Samples for Soil Organic Matter Estimation Using Vis-NIR Reflectance Spectroscopy. *Remote Sens*, *11*(450), 1–16. https://doi.org/10.3390/rs11040450

Liu, Y., Ran, Z., Pan, X., Zhou, S., & Liu, S. (2019). Prediction of Talc Content in Wheat Flour Based on a Near-Infrared Spectroscopy Technique. *Journal of Food Protection*, *82*(10), 1655–1662. https://doi.org/10.4315/0362-028X.JFP-18-582

López-Maestresalas, A., Keresztes, J. C., Goodarzi, M., Arazuri, S., Jarén, C., & Saeys, W. (2016). Non-destructive detection of blackspot in potatoes by Vis-NIR and SWIR hyperspectral imaging. *Food Control*, *70*, 229–241. https://doi.org/10.1016/j.foodcont.2016.06.001

Lopez, M. G., Garcia-Gonzales, A. S., & Franco-Robles, E. (2017). " Carbohydrate Analysis by NIRS-Chemometrics " World ’ s largest Science , Technology & Medicine Open Access book publisher. In *INTECH* (Issue March). https://doi.org/10.5772/67208

Martínez-Martín, I., Hernández-Jiménez, M., Revilla, I., & Vivar-Quintana, A. M. (2023). Prediction of Mineral Composition in Wheat Flours Fortified with Lentil Flour Using NIR Technology. *Sensors*, *23*(3). https://doi.org/10.3390/s23031491

Masithoh, R. E., Amanah, H. Z., & Cho, B. K. (2020). Application of Fourier Transform Near-Infrared (FT-NIR) and Fourier Transform Infrared (FT-IR) Spectroscopy Coupled with Wavelength Selection for Fast Discrimination of Similar Color of Tuber Flours. *Indonesian Journal of Chemistry*, *20*(3), 680–687. https://doi.org/10.22146/ijc.48092

Masithoh, R. E., Amanah, H. Z., Yoon, S. W., Joshi, R., & Cho, K. B. (2021).

Klasifikasi Tepung Porang, Suweg, dan Talas Murni serta Campuran Secara Non-Destruktif Menggunakan
Spektroskopi Near Infrared
AJENG SITI ROHMAT, Hanim Zuhrotul Amanah, S.T.P., M.P., Ph.D.; Dr. Sri Rahayoe, S.T.P., M.P.
Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Determination of protein and glucose of tuber and root flours using NIR and MIR spectroscopy. *Infrared Physics and Technology*, *113*(103577), 1–7. https://doi.org/10.1016/j.infrared.2020.103577

Masithoh, R. E., Pahlawan, M. F. R., & Wati, R. K. (2021). Non-destructive determination of SSC and pH of banana using a modular Vis/NIR spectroscopy: Comparison of Partial Least Square (PLS) and Principle Component Regression (PCR). *IOP Conference Series: Earth and Environmental Science*, *752*(1). https://doi.org/10.1088/1755-1315/752/1/012047

Masniawati, A., Johannes, E., Magfira, & Mustika, T. (2023). Analisis Glukomanan Umbi Porang (Amorphophallus Muelleri Blume) dari Beberapa Daerah di Sulawesi Selatan. *Jurnal Ilmu Alam Dan Lingkungan*, *14*(2), 1–10.

Maula, F.R., Izzuddin, M., Puspita, N.F., & Qadariyah, L. (2023). Produksi Tepung Rendah Kalsium Oksalat dari Umbi Porang (Amorphophallus muelleri Blume) dengan Kombinasi Proses Fisik dan Kimia. *Jurnal Teknik ITS*, *12*(1), 27–33.

Mundiyah, A.I., Tahir, R., & Angka, A.W. (2021). Strategi Pengembangan Agribisnis Porang Untuk Meningkatkan Kesejahteraan Petani Porang. *Agribusiness Development Strategy To Improve Farmer Welfare*. *10*(2), 146–155.

Naufali, M. N., & Putri, D. A. (2023). Potensi Pengembangan Porang sebagai Sumber Bahan Pangan di Pulau Potensi Pengembangan Porang sebagai Sumber Bahan Pangan di Pulau Lombok Nusa Tenggara Barat. May. https://doi.org/10.55180/biofoodtech.v1i02.317

Nuriyah, L., J. Iswarin, S., & Saroja, G. (2015). Studi Pengaruh Konsentrasi Larutan MnCl2 Terhadap Intensitas Citra Spektrometer Keping VCD. *Natural-B*, *3*(2), 193–197. https://doi.org/10.21776/ub.natural-b.2015.003.02.14

Padusung, Fahrudin, Kusnarta, I. G. ., & Soemeinaboedhy. (2020). Seminar Nasional Karya Pengabdian Meningkatkan Kesejahteraan Petani Hutan Melalui Integrasi Tanaman Porang (Amorphophallus onchophyllus) Dengan Vegetasi Tegakan di Kawasan Rinjani Lombok. *Prosiding Seminar Nasional Pertanian*, *1*(1), 43–56.

Pahlawan, M. F. R., Wati, R. K., & Masithoh, R. . (2021). Development of a low-cost modular VIS / NIR spectroscopy for predicting soluble solid content of banana. *IOP Conf. Series: Earth and Environmental Science*, *644*(012047), 1–9. https://doi.org/10.1088/1755-1315/644/1/012047

Pasquini, C. (2018). Analytica Chimica Acta Near infrared spectroscopy : A mature analytical technique with new perspectives e A review. *Analytica Chimica Acta*, *1026*, 8–36. https://doi.org/10.1016/j.aca.2018.04.004

Patel, H. J. (2017). Near Infrared Spectroscopy: Basic principles and use in tablet evaluation. *International Journal of Chemical and Life Sciences*, *6*(2), 2006–2015. https://doi.org/10.21746/ijcls.2017.2.1

Pellacani, S., Borsari, M., Cocchi, M., D'Alessandro, A., Durante, C., Farioli, G., & Strani, L. (2024). Near Infrared and UV-Visible Spectroscopy Coupled with Chemometrics for the Characterization of Flours from Different Starch Origins. *Chemosensors*, *12*(1), 1–18.

UNIVERSITAS
GADJAH MADA
**Klasifikasi Tepung Porang, Suweg, dan Talas Murni serta Campuran Secara Non-Destruktif Menggunakan
Spektroskopi Near Infrared**
AJENG SITI ROHMAT, Hanim Zuhrotul Amanah, S.T.P., M.P., Ph.D.; Dr. Sri Rahayoe, S.T.P., M.P.
Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

https://doi.org/10.3390/chemosensors12010001

Pilvar, A., Plutzky, J., Pierce, M. C., & Roblyer, D. (2022). *Short-Wave* infrared spatial frequency domain imaging for non-invasive measurement of tissue and blood optical properties. *Journal of Biomedical Optics*, *27*(06), 1–13. https://doi.org/10.1117/1.jbo.27.6.066003

Piwoński, H., Nozue, S., & Habuchi, S. (2022). The Pursuit of *Short-Wave* Infrared-Emitting Nanoparticles with Bright Fluorescence through Molecular Design and Excited-State Engineering of Molecular Aggregates. *ACS Nanoscience Au*, *2*(4), 253–283. https://doi.org/10.1021/acsnanoscienceau.1c00038

Professional standard of the people Republic of China for konjac flour. (2002). In Promulgated by the Ministry of the People's Republic of China. Beijing.: Vol. February. Chinese Ministry of Agriculture, China.

Purwanto, A. (2014). Pembuatan Brem Padat dari Umbi Porang (Amorphophallus Oncophyllus Prain). *Widya Warta*, *01*, 16–28.

Purwanto, Y. A., Zainal, P. W., Ahmad, U., Sutrisno, M., Makino, Y., Oshita, S., Kawagoe, Y., & Kuroki, S. (2013). Non destructive prediction of pH in mango fruit cv. Gedong Gincu using NIR spectroscopy. *International Journal of Engineering & Technology IJET-IJENS*, *13*(03), 70–73.

Rachmawan, O., Taofik, A., & Suwarno, N. (2013). Penggunaan Tepung Talas Bogor (Colocasia esculenta L. Schott) terhadap Sifat Fisik dan Akseptabilitas Nagget Ayam Petelur Afkir. *Jurnal ISTEK*, *7*(2), 152–162.

Rachmawati, Rohaeti, E., & Rafi, M. (2017). Combination of near infrared spectroscopy and chemometrics for authentication of taro flour from wheat and sago flour Combination of near infrared spectroscopy and chemometrics for authentication of taro flour from wheat and sago flour. *IOP Conf. Series: Journal of Physics: Conf. Series*, *835*(012011), 1–7.

Rafi, M., Awalul, S., Husnul, R., & Dyah, U. (2020). Discrimination of cassava, taro, and wheat flour using near_infrared spectroscopy and chemometrics. *Jurnal Kimia Sains Dan Aplikasi*, *23*(10), 360–364.

Rahmawati, W., Kusumastuti, Y. A., & Aryanti., N. (2012). Karakterisasi pati talas (Colocasia Esculnta (L.) Schott) sebagai alternatif sumber pati industri di indonesia. *Jurnal Teknologi Kimia dan Industri*, *1*(1), 347–351.

Rashmi, D.R., Raghu, N., Gopenath, T.S., Pradeep, P., Bakthavatchalam, P., Karthikeyan, M., Gnanasekaran, A., Ranjith, M.S., Chandrashekrappa, G.K., & Basalingappa, K.M. (2018). Taro (Colocasia esculenta): An overview. *Journal of Medicinal Plants Studies*, *6*(4), 156–161.

Rhamdhani, M. H., & Iswari, L. (2022). Pengembangan Aplikasi Berbasis Web dengan R Shiny untuk Analisis Data Menggunakan Algoritma PCA. *Automata 3*, *1*, 1–8.

Rofik, K., Setiahadi, R., Puspitawati., & Lukito, M. (2017). Potensi produksi tanaman porang (Amorphophallus Muelleri Blume) di kelompok tani mpsdh wono lestari desa padas kecamatan dagangan kabupaten Madiun. *Jurnal Ilmu Pertanian, Kehutanan Dan Agroteknologi*, *17*(2), 53–65.

Safriansyah, W., Ferdiana, N. A., & Noviyanti, A. R. (2021). Karakter Morfologi Talas (Colocasia Esculenta) Sebagai Indikator Level Kadar Oksalat Menggunakan Lensa Makro. *Jamb.J.Chem.*, *3*(1), 37–44.

UNIVERSITAS
GADJAH MADA
Klasifikasi Tepung Porang, Suweg, dan Talas Murni serta Campuran Secara Non-Destruktif Menggunakan Spektroskopi Near Infrared
AJENG SITI ROHMAT, Hanim Zuhrotul Amanah, S.T.P., M.P., Ph.D.; Dr. Sri Rahayoe, S.T.P., M.P.
Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Saputri, S.R., & Rahmawati, F. (2018). Roll rainbow cake subtitution of taro flour (Colocasia Esculenta) in the making of mini roll. *Prosiding Pendidikan Teknik Tata Boga Busana FT UNY*, *6*(1), 1–8.

Saputri, S. R., & Rahmawati, F. (2021). Subtitusi tepung talas (Colocasia Esculenta L.) pada pembuatan mini roll rainbow cake. *Prosiding Pendidikan Teknik Tata Boga Busana FT UNY*, *16*(1), 1–8. https://journal.uny.ac.id/index.php/ptbb/article/view/44564

Saputro, E. A., & Lefiyanti, O. (2014). Pemurnian tepung glukomanan dari umbi porang (Amorphophallus Muelleri Blume) menggunakan proses ekstraksi/leaching dengan larutan etanol. *Simposium Nasional RAPI XIII - 2014 FT UMS*, 7–13.

Saputro, E. A., Lefiyanti, O., & Mastuti, E. (2014). Pemurnian Tepung Glukomanan dari Umbi Porang (Amorphophallus muelleri Blume) Menggunakan Proses Ekstraksi/ Leaching dengan Larutan Etanol. *Simposium Nasional RAPI XIII*, 7–13.

Sari, R., & Suhartati. (2015). TUMBUHAN PORANG: PROSPEK BUDIDAYA SEBAGAI SALAH SATU SISTEM AGROFORESTRY. *Info Teknis EBONI*, *12*(2), 97–110.

Satriawan, A., & Suwardji. (2023). Pengetahuan Terhadap Upaya Pemanfaatan Umbi Suweg Sebagai Diversifikasi Makanan Masyarakat Perkotaan. *Jurnal Pengabdian Magister Pendidikan IPA*, *6*(2), 262–267.

Silva, D.F., Ogawa, C.Y.L., Sato, F., Neto, A.M., Larsen, F.H., & Pintro, P.T.M. (2020). Chemical and physical characterization of Konjac glucomannan-based powders by FTIR and 13 C MAS NMR. *Powder Technology*, 610–616. https://doi.org/10.1016/j.powtec.2019.11.071

Siswanto, B., & Karamina, H. (2016). Persyaratan lahan tanaman porang (Amarphopallus Ancophillus). *Buana Sains*, *16*(1), 57–70.

Sitompul, M. R., Suryana, F. S., Mahfud, M., & Bhuana, D. S. (2018). Ekstraksi Asam Oksalat pada Umbi Porang (Amorphophallus Oncophyllus) dengan Metode Mechanical Separation. *Jurnal Teknik ITS*, *7*(1), 135–137. https://doi.org/10.12962/j23373539.v7i1.28831

Sitorus, A., & Lapcharoensuk, R. (2024). Exploring Deep Learning to Predict Coconut Milk Adulteration Using FT-NIR and Micro-NIR Spectroscopy. *Sensors*, *24*(7), 1–23. https://doi.org/10.3390/s24072362

Sivakumar, C., Mudassir, M., Chaudhry, A., & Paliwal, J. (2022). Classification of pulse flours using near-infrared hyperspectral imaging. *LWT*, *154*(November 2021), 112799. https://doi.org/10.1016/j.lwt.2021.112799

Soares, J. M., Batista, T. B., Silva, M. F. da, Rodrigues, N. S., Dias, D. C. F. dos S., & Silva, L. J. da. (2024). Classification of the physiological potential of soybean seed lots using infrared spectroscopy and chemometric methods. *Journal of Seed Science*, *46*(202446009), 1–10. http://dx.doi.org/10.1590/2317-1545v46278267

Suhandy, D., & Yulia, M. (2019). Classification of Ground Roasted Kalosi and Toraja Specialty Coffees using UV-Visible Spectroscopy and PLS-DA Method. *Jurnal Ilmu Pertanian Indonesia*, *24*(1), 73–81. https://doi.org/10.18343/jipi.24.1.73

UNIVERSITAS
GADJAH MADA
**Klasifikasi Tepung Porang, Suweg, dan Talas Murni serta Campuran Secara Non-Destruktif Menggunakan
Spektroskopi Near Infrared**
AJENG SITI ROHMAT, Hanim Zuhrotul Amanah, S.T.P., M.P., Ph.D.; Dr. Sri Rahayoe, S.T.P., M.P.
Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Sumartini, E. Y., Rustamsyah, A., Perdana, F., Khairunnisa, A., & Kaler, T. (2023). Kajian pemanfaatan tanaman porang (Amorphophallus Muelleri) dalam bidang pangan dan kesehatan. *Jurnal Teknologi Pangan dan Ilmu Pertanian (JIPANG)*, *5*(1), 1–6.

Sun, Y., Xu, X., Zhang, Q., Zhang, D., Xie, X., Zhou, H., & Wu, Z. (2023). Review of Konjac Glucomannan Structure, Properties, Gelation Mechanism, and Application in Medical Biology. *Polymers*, *15*(1852), 1–21.

Tamburini, E., Mamolini, E., De Bastiani, M., & Marchetti, M. G. (2016). Quantitative determination of Fusarium proliferatum concentration in intact garlic cloves using near-infrared spectroscopy. *Sensors (Switzerland)*, *16*(7). https://doi.org/10.3390/s16071099

Tamonob, A. M., Saefuddin, A., & Wigena, A. H. (2015). Nonlinear principal component analysis and principal component analysis with successive interval in k-menas cluster analysis. *Forum Statistika Dan Komputasi : Indonesian Journal of Statistics*, *20*(2), 68–77.

Tazi, I., Isnaini, N. L., Mutmainnah, M., & Ainur, A. (2019). Principal Component Analysis (PCA) Method for Classification of Beef and Pork Aroma Based on Electronic Nose. *Indonesian Journal of Halal Research*, *1*(1), 5–8. https://doi.org/10.15575/ijhar.v1i1.4155

Temesgen, M., & Ratta, N. (2015). Nutritional Potential , Health and Food Security Benefits of Taro Colocasia Esculenta (L .): A Review. *Food Science and Quality Management*, *36*(June 2015), 23–31.

Thelmalina, F. J., & Wirasuta, I. M. A. G. (2023). Potensi Amorphophallus sp. sebagai Pangan Fungsional untuk Pasien Diabetes Melitus. *Prosiding Workshop Dan Seminar Nasional Farmasi*, *1*, 230–243. https://doi.org/10.24843/wsnf.2022.v01.i01.p19

Thimsen, E., Sadtler, B., & Berezin, M. Y. (2017). *Short-Wave*-infrared (SWIR) emitters for biological imaging: A review of challenges and opportunities. *Nanophotonics*, *6*(5), 1043–1054. https://doi.org/10.1515/nanoph-2017-0039

Tunny, S. S., Amanah, H. Z., Faqeerzada, M. A., Wakholi, C., Kim, M. S., Baek, I., & Cho, B. K. (2022). Multispectral Wavebands Selection for the Detection of Potential Foreign Materials in Fresh-Cut Vegetables. *Sensors*, *22*(5), 1–16. https://doi.org/10.3390/s22051775

Waisnawi, P. A. G., Yusasrini, N. L. A., & Ina, P. (2019). Pengaruh perbandingan tepung suweg (Amorphophallus campanulatus) dan tepung kacang hijau (Vigna radiate) terhadap karakteristik cookies. *Jurnal Ilmu Dan Teknologi Pangan*, *8*(1), 48–56.

Wang, Z., Dai, F., Yue, X., Zhong, T., Wang, H., & Tian, G. (2023). Identification and Recognization of Bamboo Based on Cross-Sectional Images Using Computer Vision. *Wood and Fiber Science*, *55*(1), 43–52. https://doi.org/10.22382/wfs-2023-06

Wang, Z., Wu, Q., & Kamruzzaman, M. (2022). Portable NIR spectroscopy and PLS based variable selection for adulteration detection in quinoa flour. *Food Control*, *138*(108970), 1–8. https://doi.org/10.1016/j.foodcont.2022.108970

Wardah, & Dutahatmaja, A. (2023). Peningkatan Nilai Ekonomi melalui Kegiatan Penanganan Pascapanen Porang di Desa Cupak Kecamatan Ngusikan

UNIVERSITAS
GADJAH MADA
**Klasifikasi Tepung Porang, Suweg, dan Talas Murni serta Campuran Secara Non-Destruktif Menggunakan
Spektroskopi Near Infrared**
AJENG SITI ROHMAT, Hanim Zuhrotul Amanah, S.T.P., M.P., Ph.D.; Dr. Sri Rahayoe, S.T.P., M.P.
Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Kabupaten Jombang. *Jurnal Pengabdian Nasional*, *03*(04), 57–69.

Wardani, N. E., Subaidah, W. A., & Muliasari, H. (2021). Ekstraksi dan Penetapan Kadar Glukomanan dari Umbi Porang (Amorphophallus muelleri Blume) Menggunakan Metode DNS. *Jurnal Sains dan Kesehatan*, *3*(3), 383–391. https://doi.org/10.25026/jsk.v3i3.574

Westerhuis, J. A., Hoefsloot, H. C. J., Smit, S., Vis, D. J., Smilde, A. K., Velzen, E. J. J., Duijnhoven, J. P. M., & Dorsten, F. A. (2008). Assessment of PLSDA cross validation. *Metabolomics*, *4*(1), 81–89. https://doi.org/10.1007/s11306-007-0099-6

Widjanarko, S. B., Faridah, A., & Sutrisno, A. (2014). Optimization of ultrasound-assisted extraction of konjac flour from amorphophallus muelleri blume. *Gums and Stabilisers for the Food Industry 17 - The Changing Face of Food Manufacture: The Role of Hydrocolloids*, *December*, 109–122. https://doi.org/10.1039/9781782621300-00109

Windig, W., Shaver, J., & Bro, R. (2008). Loopy MSC: A simple way to improve multiplicative scatter correction. *Applied Spectroscopy*, *62*(10), 1153–1159. https://doi.org/10.1366/000370208786049097

Wong, M. K. L., & Carmona, C. P. (2021). *Including intraspecific trait variability to avoid distortion of functional diversity and ecological inference : Lessons from natural assemblages*. *2021*, 946–957. https://doi.org/10.1111/2041-210X.13568

Wu, N., Jiang, H., Bao, Y., Zhang, C., Zhang, J., Song, W., Zhao, Y., Mi, C., He, Y., & Liu, F. (2020). Practicability investigation of using near-infrared hyperspectral imaging to detect rice kernels infected with rice false smut in different conditions. *Sensors and Actuators, B: Chemical*, *308*(127696), 1–12. https://doi.org/10.1016/j.snb.2020.127696

Yan, J., Gao, Y., Yu, Y., Xu, H., & Xu, Z. (2020). A prediction model based on deep belief network and least squares SVR applied to cross-section water quality. *Water (Switzerland)*, *12*(1929), 1–16. https://doi.org/10.3390/w12071929

Yanuriati, A., Wiseso, D., & Harmayani, E. (2017). Characteristics of glucomannan isolated from fresh tuber of Porang (Amorphophallus muelleri Blume). *Carbohydrate Polymers*, *156*, 56–63. https://doi.org/10.1016/j.carbpol.2016.08.080

Yu, X., Tang, L., Wu, X., & Lu, H. (2018). Nondestructive freshness discriminating of shrimp using visible/near-infrared hyperspectral imaging technique and deep learning algorithm. *Food Analytical Methods*, *11*(3), 768–780. https://doi.org/10.1007/s12161-017-1050-8

Yuliyanda, I., Masithoh, R. E., Khuriyati, N., & Saputro, A. D. (2019). Classification of crop flours based on protein contents using near infra-red spectroscopy and principle component analysis. *IOP Conference Series: Earth and Environmental Science*, *355*(1), 1–10. https://doi.org/10.1088/1755-1315/355/1/012002

Yuniwati, I., Pamuji, D. R., Trianasari, E., Rahayu, N. S., & Ulfiyati, Y. (2021). Pembuatan tepung porang sebagai upaya peningkatan penjualan umbi porang di masa pandemi covid-19. *Jurnal Inovasi Hasil Pengabdian Masyarakat*

UNIVERSITAS
GADJAH MADA
**Klasifikasi Tepung Porang, Suweg, dan Talas Murni serta Campuran Secara Non-Destruktif Menggunakan
Spektroskopi Near Infrared**
AJENG SITI ROHMAT, Hanim Zuhrotul Amanah, S.T.P., M.P., Ph.D.; Dr. Sri Rahayoe, S.T.P., M.P.
Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

(JIPEMAS), *4*(2), 231. https://doi.org/10.33474/jipemas.v4i2.9368

Yuvita, L. V. A., Budiastra, I. W., & Hasbullah, R. (2022). Evaluation of chemichal content of desiccated coconut using FT-NIR spectroscopy. *IOP Conference Series: Earth and Environmental Science*, *1024*(1), 1–10. https://doi.org/10.1088/1755-1315/1024/1/012020

Zhang, L., Zhang, B., Zhou, J., Gu, B., & Tian, G. (2017). Uninformative biological variability elimination in apple soluble solids content inspection by using fourier transform near-infrared spectroscopy combined with multivariate analysis and wavelength selection algorithm. *Journal of Analytical Methods in Chemistry*, *2017*. https://doi.org/10.1155/2017/2525147

Zhang, S., Shuliang, L., Shen, L., S., C., He, L., & Liu, A. (2022). Application of near-infrared spectroscopy for the nondestructive analysis of wheat flour : a review. *Current Reasearch in Food Science*, *5*, 1305–1312. Https://Doi.Org/10.1016/J.Crfs.2022.08.006