

DAFTAR PUSTAKA

- Ai, N. S., & Banyo, Y. (2011). Konsentrasi Klorofil Daun sebagai Indikator Kekurangan Air pada Tanaman. *J. Ilmiah Sains*, 11(2), 166–173.
- Ari, F. (2015). *Strategi konservasi sumberdaya genetik aren (Arenga pinnata)*. 1, 687–690. <https://doi.org/10.13057/psnmbi/m010350>
- Arif, I. A., Bakir, M. A., Khan, H. A., Ahamed, A., Al Farhan, A. H., Al Homaidan, A. A., Al Sadoon, M., Bahkali, A. H., & Shobrak, M. (2010). A simple method for DNA extraction from mature date palm Leaves: Impact of sand grinding and composition of lysis buffer. *International Journal of Molecular Sciences*, 11(9), 3149–3157. <https://doi.org/10.3390/ijms11093149>
- Arpiwi, N. L., Wahyuni, I. G. A. S., & Muksin, I. K. (2019). Genetic diversity of *Pongamia pinnata* in Bali, Indonesia using Inter Simple Sequence Repeat markers. In *Biodiversitas Journal of Biological Diversity* (Vol. 20, Issue 8). UNS Solo. <https://doi.org/10.13057/biodiv/d200806>
- Arsyad, M. A., Purwito, A., & Dinarti, D. A. N. D. (2013). *Pengaruh Umur Embrio dan Jenis Media Dasar Terhadap Keberhasilan Embryo Rescue Aren (Arenga pinnata (Wurmb) Merr .) secara In Vitro Influence of Embryo Age and Type of Basal Mediumto The Success of In Vitro Embryo Rescue*. 14(1), 20–27.
- Astuti, M., Hafizah, Yuningsih, E., Nasution M., I., Mustikawati, D., Wasingun, R., A. (2014). *Pedoman budidaya aren* (Nasir Gamal (ed.); I). Kementerian Pertanian Dirjen Perkebunan.
- Bakri, R., Sartono, B., Zainuddin, H. A., & Sabil, L. A. (2020). *SWANSTAT : A user-friendly web application for data analysis using shinydashboard package in R*. 18(4), 1866–1873. <https://doi.org/10.12928/TELKOMNIKA.v18i4.14182>
- Beier, S., Thiel, T., Münch, T., Scholz, U., & Mascher, M. (2017). MISA-web: a web server for microsatellite prediction. *Bioinformatics (Oxford, England)*, 33(16), 2583–2585. <https://doi.org/10.1093/bioinformatics/btx198>
- Bello, N., Francino, O., & Sánchez, A. (2001). Isolation of genomic DNA from feathers. *Journal of Veterinary Diagnostic Investigation*, 13(2), 162–164. <https://doi.org/10.1177/104063870101300212>
- Boudet, A. M. (2007). Evolution and current status of research in phenolic compounds. *Phytochemistry*, 68(22–24), 2722–2735. <https://doi.org/10.1016/j.phytochem.2007.06.012>
- BPS. (2017). *Provinsi Sulawesi Selatan Dalam Angka 2017* (pp. 1–457). <https://sulsel.bps.go.id/publication/>
- Brown, T. A. (2010). *Gene cloning dan DNA Analysis* (U. 9600 Garsington Road, Oxford, OX4 2DQ, U. The Atrium, Southern Gate, Chichester, West Sussex, PO19 8SQ, UK 111 River Street, Hoboken, NJ 07030-5774, & For (eds.); Sixth Edit). John Wiley & Sons in February 2007. Blackwell's publishing program has been merged with Wiley's global Scientific, Technical and Medical business to form Wiley-Blackwell. Registered.

- <https://eclass.upatras.gr/modules/document/file.php/BIO276/Gene%26DNAAnalysis.pdf>
- Brunetti, C., George, R. M., Tattini, M., Field, K., & Davey, M. P. (2013). Metabolomics in plant environmental physiology. In *Journal of Experimental Botany*. <https://doi.org/10.1093/jxb/ert244>
- Chen, S., Chen, W., Shen, X., Yang, Y., Qi, F., Liu, Y., & Meng, H. (2014). Analysis of the genetic diversity of garlic (*Allium sativum L.*) by simple sequence repeat and inter simple sequence repeat analysis and agro-morphological traits. In *Biochemical Systematics and Ecology* (Vol. 55, pp. 260–267). Elsevier BV. <https://doi.org/10.1016/j.bse.2014.03.021>
- Cincotta, R. P., Hale, M. G., Orcutt, D. M., & Thompson, L. K. (1990). The Physiology of Plants under Stress. *Journal of Range Management*. <https://doi.org/10.2307/3899132>
- Croxdale, J. (2001). *Stomata*. University of Wisconsin, Madison, Wisconsin.
- Effendi, D., S. (2010). Prospek Pengembangan Tanaman Aren (Arenga pinnata Merr) Mendukung Kebutuhan Bioetanol di Indonesia. *Perspektif*, 9(1), 36–46.
- Effendi, D. S. (2010). Prospek Pengembangan Tanaman Aren (Arenga pinnata Merr) Mendukung Kebutuhan Bioetanol di Indonesia. *Perspektif*, 9(1), 36–46. <https://doi.org/10.21082/p.v9n1.2010>.
- Elberson, W., Leo, O., & Jan, Y. (2010). Sugar palm (Arenga pinnata). *FACT Foundation*.
- Gamal, N. (2015). Lampiran Keputusan Menteri pertanian RI No. 324/Kpts/KB.020/10/2015, Tanggal 30 Oktober 2015 tentang Pedoman Produksi, Sertifikasi, Peredaran dan Pengawasan Benih Tanaman Aren (Arenga pinnata, Merr.). *Kepmentan RI*, 1–22.
- Gitelson, A., A., Gritz, Y., & Merzlyak, M. . (2003). Relationships between leaf chlorophyll content and spectral reflectance and algorithms for non-destructive chlorophyll assessment in higher plant leaves. *Journal of Plant Physiology*, 160, 271–282. <https://doi.org/10.1078/0176-1617-00887>
- Gitelson, A. A., Gritz †, Y., & Merzlyak, M. N. (2003). Relationships between leaf chlorophyll content and spectral reflectance and algorithms for non-destructive chlorophyll assessment in higher plant leaves. *Journal of Plant Physiology*, 160(3), 271–282. <https://doi.org/10.1078/0176-1617-00887>
- Gupta, P. K., Balyan, H. S., Sharma, P. C., & Ramesh, B. (1996). Microsatellites in plants: A new class of molecular markers. In *Current Science* (Vol. 70, Issue 1, pp. 45–54).
- Gusmiaty, Restu, M., & Pongtuluran. (2012). 211-14253-1-PB. *Jurnal Parennyial*, 8(1), 25–29.
- Harahap, M. K. (2017). Keragaman Genetik Tanaman Aren (Arenga pinnata Merr) di Tapanuli Selatan dengan Menggunakan Marka RAPD (Random Amplified Polymorphic DNA). 03(2), 445–453.

- Hartati, D., Rimbawanto, A., Taryono, Sulistyaningsih, E., & Widyatmoko, A. (2007). *Estimation Of Genetic Diversity within and among Pulai (Alstonia)*. 1(2), 1–9.
- Haryanti, S. (2010a). Jumlah dan distribusi stomata pada daun beberapa spesies tanaman dikotil dan monokotil. *Jurnal Anatomi Fisiologi*.
- Haryanti, S. (2010b). Pengaruh naungan yang berbeda terhadap jumlah stomata dan ukuran porus stomata daun Zephyranthes Rosea Lindl. *Buletin Anatomi Dan Fisiologi*, 18(1), 41–48.
- Henry, R. J. (2009). Plant DNA extraction. *Plant Genotyping: The DNA Fingerprinting of Plants*, January 2001, 239–249. <https://doi.org/10.1079/9780851995151.0239>
- Hideyanto, E., & Rofiq, A. (2010). *Aplikasi Portable Brix Meter untuk Pengukuran Indeks Bias*. 13(4), 113–118.
- Ibrahim, M. F., Abdullah, M. Y., Nur, R., & Raja, A. (2018). Characterization of reproductive morphological characteristics of sugar palm (Arenga pinnata) and its relationship with sap yield and Brix value. *Forests, Trees and Livelihoods*, 8028, 1–7. <https://doi.org/10.1080/14728028.2018.1467799>
- Janick, J., & Paull, R. E. (2008). *The Encyclopedia of Fruit & Nuts Edited by (J. Jules (ed.))*. www.cabi.org
- Johnson, D. V. (1983). Multi-purpose palms in agroforestry: A classification and assessment. *International Tree Crops Journal*, 2(3–4), 217–244. <https://doi.org/10.1080/01435698.1983.9752757>
- Kamagi, L., Pontoh, J., Momuat, L. I., & Kimia, J. (2017). *Analisis Kandungan Klorofil Pada Beberapa Posisi Anak Daun Aren (Arenga pinnata) dengan Spektrofotometer UV- Vis*. 6(2).
- Karp, a, Kresovich, S., Bhat, K. V, Ayad, W. G., & Hodgkin, T. (1997). Molecular tools in plant genetic resources conservation: a guide to the technologies. In *IPGRI Technical Bulletin* (Vol. 2, Issue 2).
- Kinho, J., Na’iem, M., & Indrioko, S. (2016). Studi Keragaman Genetik Diospyros rumpii Bakh di Sulawesi Utara Berdasarkan Penanda Isoenzim. *Jurnal Pemuliaan Tanaman Hutan*. <https://doi.org/10.20886/jpth.2016.10.2.95-109>
- Knopkiewicz, M., Gawłowska, M., & Święcicki, W. (2014). The application of high resolution melting in the analysis of simple sequence repeat and single nucleotide polymorphism markers in a pea (*Pisum sativum* L.) population. In *Czech Journal of Genetics and Plant Breeding* (Vol. 50, pp. 151–156). Czech Academy of Agricultural Sciences. <https://doi.org/10.17221/113/2013-cjgp>
- Lanes, E. C. M., Nick, C., Kuki, K. N., Freitas, R. D., & Motoike, S. Y. (2013). Genomic DNA isolation of *Acrocomia aculeata* (Arecaceae) from leaf and stipe tissue samples for PCR analysis. *Genetics and Molecular Research*, 12(3), 3905–3911. <https://doi.org/10.4238/2013.September.23.9>
- Larekeng, S., H., Gusmiaty, Restu, M., Arsyad, M. A., & Dermawan, R. (2019). Morphophysiological analyses on Teak (*Tectona grandis* Linn. f.) from three

- provenances. *IOP Conference Series: Earth and Environmental Science*, 235(1). <https://doi.org/10.1088/1755-1315/235/1/012048>
- Larekeng H., S., Maskromo, I., Purwito, A., & Matjik, A., N. (2015). Pollen Dispersal and Pollination Patterns Studies in Pati Kopyor Coconut using Molecular Markers. *Cord*, 31(1).
- Larekeng, S. H., Restu, M., Susilowati, A., & Rachmat, H. H. (2019). Genetic diversity of parental and offspring population in ebony (*Diospyros celebica* bach) revealed by Microsatellites marker. *International Journal on Emerging Technologies*.
- Li, R., Guo, P., Baum, M., Grando, S., & Ceccarelli, S. (2006). Evaluation of Chlorophyll Content and Fluorescence Parameters as Indicators. *Agricultural Sciences in China*, 5(October), 751–757.
- Li, Y. C., Korol, A. B., Fahima, T., & Nevo, E. (2004). Microsatellites within genes: Structure, function, and evolution. *Molecular Biology and Evolution*, 21(6), 991–1007. <https://doi.org/10.1093/molbev/msh073>
- Li, Y. C., Koroll, A. B., Fahima, T., Beiles, A., & Nevo, E. (2002). Microsatellites : genomiv distribution, putative functions and mutational mechanisms : a review. *Molecular Ecology*, 11, 2453–2465. <https://doi.org/https://doi.org/10.1046/j.1365-294x.2002.01643.x>
- Martini, E., Roshetko, J. M., van Noordwijk, M., Rahmanulloh, A., Mulyoutami, E., Joshi, L., & Budidarsono, S. (2012). Sugar palm (*Arenga pinnata* (Wurmb) Merr.) for livelihoods and biodiversity conservation in the orangutan habitat of Batang Toru, North Sumatra, Indonesia: Mixed prospects for domestication. *Agroforestry Systems*, 86(3), 401–417. <https://doi.org/10.1007/s10457-011-9441-0>
- Mashud, N., & Farida. (2015). Karakteristik Fisiologi Daun Aren Varietas Akel Toumuung Physiology Characteristic of Toumuung Sugar Palm Leaf. *B. Palma*, 16, 49–56.
- McAinsh, M. R., & Taylor, J. E. (2016). Stomata. In *Encyclopedia of Applied Plant Sciences*. <https://doi.org/10.1016/B978-0-12-394807-6.00073-3>
- Mogea, J., Seibert, B., & Smits, W. (1991a). Multipurpose palms: the sugar palm (*Arenga pinnata* (Wurmb) Merr.). *Agroforestry Systems*, 13(2), 111–129. <https://doi.org/10.1007/BF00140236>
- Mogea, J., Seibert, B., & Smits, W. et all. (1991b). *Multipurpose palms : the sugar palm (Arenga pinnata(Wurmb) Merr.)*. 111–112.
- Morgante, M., & Olivieri, A. M. (1993). PCR-amplified microsatellites as markers in plant genetics. *Plant Journal*, 3(1), 175–182. <https://doi.org/10.1111/j.1365-313x.1993.tb00020.x>
- Mulyani, Y., Purwanto, A., & Nuruhwati, I. (2011). Perbandingan Beberapa Metode Isolasi DNA Untuk Deteksi Dini Koi Herpes Virus (KHV) Pada Ikan Mas (*Cyprinus carpio* L.). *Universitas Padjajaran*, 2(1), 1–16.
- Muzaiyanah, S., & Anggoro, W. (2016). Hubungan Beberapa Karakter Agronomi

- terhadap Hasil Kedelai Toleran Kekeringan. *Prosiding Seminar Hasil Penelitian Tanaman Aneka Kacang Dan Umbi 2016*, 235–242.
- Naufalin. (2013). Eksplorasi Aren (*Arenga pinnata* Merr) di Tomohon, Sulawesi Utara. *Buletin Palma*, 37, 114–118.
- NCBI. (2019). The NCBI handbook. In T. beck, jeffrey; Benson, Dennis; Cleman, janet; Hoeppner, Marilu; Johnson, Mark; Maglott, Donna; Mizrachi,ilene; Morris, Rana; Ostell, Jim; Pruitt,Kim; Rubinstein,Wendy; Sayers,Eric; Sirotkin, karl; Tatusova (Ed.), *The NCBI Handbook 2nd edition* (2nd editio). National Center for Biotechnology Information (US), Bethesda (MD).
- Nurdianawati, S., & Wicaksana, N. (2016). *Analisis Kesesuaian Marka SSR (Simple Sequence Repeats) untuk Identifikasi Keragaman Genetik pada Kacang Bambara Asal Jawa Barat*. 27(2), 120–123.
- Nurholis dan Saleh Ismail. (2019). *Hubungan Karakteristik Morfofisiologi Tanaman Kersen (Muntingia Calabura)*. 12(2), 47–52.
- Palit, J. J. (2008). Teknik Penghitungan Jumlah Stomata Beberapa Kultivar Kelapa. *Buletin Teknik Pertanian*, 13(1), 9–11.
- Pallardy, S. (2008). Physiology of Woody Plants. In *Physiology of Woody Plants*. <https://doi.org/10.1071/pc980272>
- Pandin, D. S. (2015). Penanda DNA Untuk Pemuliaan Tanaman Kelapa (*Cocos nucifera* L.). *Perspektif*, 9(1), 21–35. <https://doi.org/10.21082/p.v9n1.2010>.
- Pessarakli, M. (2001). Handbook of plant and crop physiology, second edition. In *Handbook of Plant and Crop Physiology, Second Edition*. <https://doi.org/10.1201/9780203908426>
- Plant, D., & Kit, M. (2019). *Handbook* (Issue August). www.qiagen.com
- Powell, W., Machray, G. C., & Proven, J. (1996). Polymorphism revealed by simple sequence repeats. *Trends in Plant Science*, 1(7), 215–222. [https://doi.org/10.1016/1360-1385\(96\)86898-1](https://doi.org/10.1016/1360-1385(96)86898-1)
- Psifidi, A., Dovas, C. I., Bramis, G., Lazou, T., Russel, C. L., Arsenos, G., & Banos, G. (2015). Comparison of eleven methods for genomic DNA extraction suitable for large-scale whole-genome genotyping and long-term DNA banking using blood samples. *PLoS ONE*, 10(1), 1–18. <https://doi.org/10.1371/journal.pone.0115960>
- Putri, O., Lawendatu, G., & Pontoh, J. (2019). Analisis Kandungan Klorofil Pada Berbagai Posisi Daun Dan Anak Daun Aren (*Arenga Pinnata*). *Chemistry Progress*, 12(2), 67–72. <https://doi.org/10.35799/cp.12.2.2019.26414>
- Queller, D. C., Strassmann, J. E., & Hughes, C. R. (1993). Microsatellites and kinship. *Trends in Ecology and Evolution*, 8(8), 285–288. [https://doi.org/10.1016/0169-5347\(93\)90256-O](https://doi.org/10.1016/0169-5347(93)90256-O)
- Sambrook, J. (2012). Molecular Cloning. In *Dong wu xue yan jiu = Zoological research / "Dong wu xue yan jiu" bian ji wei yuan hui bian ji* (Fourth, Vol. 33, Issue 1). <https://doi.org/10.3724/sp.j.1141.2012.01075>

- Samudin, S., & Saleh, S. (2009). *Parameter Genetik Tanaman Aren (Arenga pinnata L .)*. 16(1), 17–23.
- Sasmito K., D., E., Kurniawan, R., & Muhibbah, I. (2014). Karakteristik Primer pada Polymerase Chain Reaction(PCR) untuk Sekuensing DNA: Mini Review. *Seminar Informatika Medis 2014*, 93–102. <http://snimed.fit.ii.ac.id/>
- Setiari, N. (2009). *Eksplorasi Kandungan Klorofil pada beberapa Sayuran Hijau sebagai Alternatif Bahan Dasar Makanan Tambahan*. 11(1), 6–10. <https://doi.org/10.14710/bioma.11.1.6-10>
- Sia, J., Yee, H. Ben, Santos, J. H., & Abdurrahman, M. K. A. (2010). Cyclic voltammetric analysis of antioxidant activity in cane sugars and palm sugars from Southeast Asia. *Food Chemistry*, 118(3), 840–846. <https://doi.org/10.1016/j.foodchem.2009.05.030>
- Tamunaidu, P., Matsui, N., Okimori, Y., & Saka, S. (2013). Nipa (*Nypa fruticans*) sap as a potential feedstock for ethanol production. *Biomass and Bioenergy*, 52(0), 96–102. <https://doi.org/10.1016/j.biombioe.2013.03.005>
- Tawab, F. A., Fahmy, E. M., & Khaled, K. A. M. (2011). *Marker- Assisted Selection Associated with Sugar Content in Sugarcane (Saccharum Spp .)**. October.
- Tenda, E. T. (2017). *Eksplorasi Aren (Arenga pinnata Merr) di Tomohon, Sulawesi Utara*. 37, 114–118. <https://doi.org/10.21082/bp.v0n37.2009.114-118>
- Tenda, E. T. (2020). *Aren: Emas hijau yang menggiurkan*. <http://balitka.litbang.pertanian.go.id/pengusaha-asal-belanda-peneliti-balit-palma-presiden-aren-foundation-dan-partisipan-dari-california-usa-meriahkan-seminar-online-seri-12-aren-emas-hijau-dengan-hasil-yang-menggiurkan/>
- Tenda, E. T., & Ismail, D. A. N. (2012). *Karakteristik Morfologi dan Potensi Produksi Aren Genjah Kutim Characteristic of Morphology And Production of Kutim Sugar Palm Dwarf Variety*. 115–121.
- Tenda, E. T., & Mahayu, W. M. (2015). Potensi Produksi Nira dan Benih Aren Varietas Akel Toumuung. *Buletin Palma*, 16(1), 40–48.
- Tenda, E. T., & Maskromo, I. (2012). Karakteristik Morfologi dan Potensi Produksi Aren Genjah Kutim. *Buletin Palma*, 13(2), 115–121.
- Tenda, E. T., Maskromo, I., & Bambang, D. a N. (2010). *Eksplorasi Plasma Nutfa Aren (Arenga pinnata Merr) di Kutai Timur , Provinsi Kalimantan Timur Exploration of Sugar Palm (Arenga pinnata Merr) Germplasm in East Kutai , East Kalimantan Province*. 88–94.
- Tenda, E. T., Pandin, S. D., & Maskromo, I. (2011). Potensi Pengembangan Aren Genjah Kutim. *Prosiding Seminar Nasional Inovasi Perkebunan 2011*.
- Tenda, E. T., & Weda, D. A. N. (2015). *Potensi Produksi Nira dan Benih Aren Varietas Akel Toumuung Production Potency of Toddy and Seeds of Akel Toumuung Sugar Palm Variety*. 40–48.
- Todd, J. A. (1992). *Microsatellites for linkage analysis of genetic traits*. 8(8),

- 11986–11991.
- Tsuchihashi, N., & Goto, Y. (2005). Internode characteristics of sweet sorghum (*Sorghum bicolor* (L.) Moench) during dry and rainy seasons in Indonesia. *Plant Production Science*, 8(5), 601–607. <https://doi.org/10.1626/pps.8.601>
- Tsukazaki, H. (2018). Simple Sequence Repeat. In *Compendium of Plant Genomes* (pp. 113–127). Springer International Publishing. https://doi.org/10.1007/978-3-319-95825-5_8
- Uhl, N. W., & Dransfield, J. (1988). "Genera Palmarum", a New Classification of Palms and Its Implications Author (s): Natalie W. Uhl and John Dransfield Source : *Advances in Economic Botany*, Vol. 6, The Palm — Tree of Life : Biology , Utilization and Conservation (1988), pp . 1-19. 6, 1-19. <https://about.jstor.org/terms>
- Victor, I., & Orsat, V. (2017). Characterization of Arenga pinnata (Palm) Sugar. In *Sugar Tech* (Vol. 20, Issue 1, pp. 105–109). Springer Science and Business Media LLC. <https://doi.org/10.1007/s12355-017-0537-3>
- Vinayak, V., Dhawan, A. K., & Gupta, V. K. (2010). PCR Primers for identification of high sucrose Saccharum genotypes. *Physiology and Molecular Biology of Plants*, 16(1), 107–111. <https://doi.org/10.1007/s12298-010-0002-1>
- Wang, H., Lei, Y., Yan, L., Wan, L., Cai, Y., Yang, Z., Lv, J., Zhang, X., Xu, C., & Liao, B. (2018). Development and validation of simple sequence repeat markers from *Arachis hypogaea* transcript sequences. *Crop Journal*, 6(2), 172–180. <https://doi.org/10.1016/j.cj.2017.09.007>
- Widarawati, R., & Yudono, P. (2018). *Karakter Fisiologis Pertumbuhan dan Hasil Nira Tanaman Aren (Arenga pinnata (Wurmb.) Merr.) pada Tinggi Tempat dan Musim Berbeda di Kawasan Lereng Selatan Pegunungan Menoreh*. Universitas Gajah Mada.
- Wilujeng, L. (2018). Keragaman Gen Cytochrome B Pada Sidat (*Anguila bicolor*) Berdasarkan Restriction Fragment Length Polymorphism (RFLP). *Jurnal Biosains Pascasarjana*. <https://doi.org/10.20473/jbp.v20i3.2018.194-201>
- Yamamoto, M., Handa, Y., Alhara, H., & Setoguchi, H. (2018). Development and characterization of 43 microsatellite markers for the critically endangered primrose *Primula reinii* using MiSeq sequencing. In *Plant Diversity* (Vol. 40, Issue 1, pp. 41–44). <https://doi.org/10.1016/j.pld.2017.09.003>
- Yono, D., Wahyu, Y., & Toruan-mathius, N. (2017). *Identifikasi Penanda SSR yang Berasosiasi dengan Bobot Tandan Buah Kelapa Sawit (Elaeis guineensis Jacq.) Identification of SSR Markers Associated with Oil Palm (Elaeis guineensis Jacq.) Bunch Weight*. 45(April), 79–85.
- Zegada-Lizarrazu, W., Wullschleger, S. D., Surendran Nair, S., & Monti, A. (2012). Crop physiology. *Green Energy and Technology*. https://doi.org/10.1007/978-1-4471-2903-5_3

Lampiran 1. Forward dan reverse sekuen primer Mikrosatelit yang digunakan pada percobaan pertama penelitian ini yaitu screening kandidat gen pembawa sifat kandungan gula *Arenga pinnata*, (WURMB) MERR(Vinayak et al., 2010)

Primer	Forwad Sequence	Reverse Sequence
A	5' TCG GGA CGA ATC TGT TGA G 3'	5' GCATAC AAA GGA CAA TAA TAA AAG A 3'
B	5' GAT TCG ATG TGA TGG CAA GCA C 3'	5' GCA TAC AAA GGA CAA TAA TAA AAGA 3'
MSSCIR43	5' ATT CAA CGA TTT TCA CGA G 3'	5' AAC CTAGCAATTACAAG AG 3'
MSSCIRI	5' CTT GTGGATTGGATTGGAT 3'	5'AGG AAATGGATTGCTCAGG 3'
SMC226CG	5' GAGGCTCAGAACAGCTGGCAT 3'	5' ACCCTCTATTCCGAGTTGGT 3'
SMC1039CG	5' AGGTGAGAGTTCCCTGGCTTCCA 3'	5' TGTGCTGGCAAGCCCCACTT 3'
SCB07	5' ACG AGA ACC ACA GCC ACC AG 3'	5' GGA GGT AGT CGG TGA AGT GC 3'
AI	5' CAA GTT CTA CGC GTC CAA GAC 3'	5' CAG ATG TCC GTG ACC ATT AGT 3'
SS	5' TTG GGT ATG CTC GCT CTT CT 3'	5' TAC TGA CTC CGC ACA AGC AC 3'
SPS	5' TGA GAA GAG CTC GCT GAA CA 3'	5' GCT AGC AGA GGG ACA ACC TG 3'

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 - b. Nama anak : Nadine Nur Ramadhani
Nadia Nurul Zahrani
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- B. Riwayat Pendidikan**
- a. Pendidikan Formal :
 - Tamat SD tahun 1992 di SD Negeri 22 Bontokapetta Maros
 - Tamat SLTP tahun 1995 di SLTP Negeri 2 Maros
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 - Profesi Insinyur Indonesia melalui RPL di Institut Pertanian Bogor
- C. Pekerjaan dan Riwayat Pekerjaan :**
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D Karya ilmiah/Artikel jurnal yang telah dipublikasikan

- Morphological Characteristik of *Arenga pinnata*, Merr. From Maros and Sinjai Provenansi In South Sulawesi, Indonesia and Its Relationship with Brix Content
- Characterization Of Physiological Characteristics In Sugar Palm (*Arenga Pinnata* (Wurmb) Merr.) And The Relationship With Brix Value And Elevation
- Evaluasi keberhasilan pertumbuhan Tanaman pada kegiatan rehabilitasi Hutan dan lahan (GNRHL) di Taman Nasional Bantimurung Bulusaraung (Studi kasus kegiatan GNRHL Tahun 2003-2007)
- Kajian potensi pengembangan Teknologi Sistem Integrasi Tanaman Jagung dan Ternak Model Zero Waste di kabupaten Soppeng
- Analissi neraca air untuk pendugaan Jumlah Air yang dapat dapanen selama musim penghujan pada lahan sawah tada hujan
- Identifikasi Tanaman Herbal di kebun Raya Pucak

E Makalah pada seminar/Konferensi Ilmiah Nasional dan International

- Evaluasi keberhasilan pertumbuhan Tanaman pada kegiatan rehabilitasi Hutan dan lahan (GNRHL) di Taman Nasional Bantimurung Bulusaraung (Studi kasus kegiatan GNRHL Tahun 2003-2007)
- Screening of Candidat Gene Sucrose in *Arenga pinnata*, (Wurmb) Merr. Provenansi Maros and Provenansi Sinjai South Sulawesi