

**DAFTAR PUSTAKA**

- Adiningsih, S., Moersidi, J.S., Sudjadi, M., Fagi, A.M. (1989). *Evaluasi keperluan fosfat pada lahan sawah intensifikasi di Jawa [Evaluation of phosphate requirements on paddy-fields intensification in Java]*. Prosiding Lokakarya Nasional Efisiensi Penggunaan Pupuk. Bogor: Pusat Penelitian Tanah. pp. 63-89.
- Abdulrachman, S., Susanti, Z., Suhana (2000). *Dinamika unsur NPK pada lahan sawah dalam jangka panjang [The dynamics of NPK elements on paddy-fields in the long-term]*. Laporan akhir Proyek Pengkajian Teknologi Pertanian Partisipatif (PAATP). Sukamandi: Badan Penelitian dan Pengembangan Pertanian.
- Abe, S. S., Buri, M. M., Issaka, R. N., Kiepe, P., Wakatsuki, T. (2010). Soil fertility potential for rice production in West African Lowlands. *Japan Agricultural Research Quarterly*, 44(4), 343-355. doi: 10.6090/jarq.44.343.
- Adiningsih, S., Moersidi, J. S., Sudjadi, M., & Fagi, A.M. (1989). Evaluasi keperluan fosfat pada lahan sawah intensifikasi di Jawa [Evaluation of phosphate requirements on paddy-fields intensification in Java]. Prosiding Lokakarya Nasional Efisiensi Penggunaan Pupuk [Proceedings of the National Workshop on Efficient Use of Fertilizers]. Pusat Penelitian Tanah, Bogor, 63-89.
- Akaike H. 1974. A new look at the statistical model identification. *IEEE Transactions on Automatic Control* **19**: 716-23.
- Akaike H. 1978. Time series analysis and control through parametric methods. In *Applied Time Series Analysis*, Edited by: Findley D. pp 1-24. Academic Press, New York.
- Aminuddin B Y, Zulkafli I, AbdRazak H, Abdul Munir J and Abdul Rahim A. 2003. Mapping soil and nutrient variations for precise fertilizer management in rice farm. *Poster paper, Modern rice farming*, Alor Setar.
- Azmi, A., Yuwono, A. S., Erizal, Kurniawan, A., & Mulyanto, B. (2015). Analysis of dustfall from regosol soil in Java Island, Indonesia. *ARPJ Journal of Engineering and Applied Sciences*, 10(18), 8184-8191.
- Brady, N. C. & Weil, R. R. (2008). *The nature and properties of soils* (14<sup>th</sup> ed). Pearson Prentice Hall, New Jersey.

- Bui, E. (2007). *A review of digital soil mapping in Australia*. pp. 25-37. In: Lagacherie, P. A.B. McBratney, A.B., Voltz, M. (Eds.) *Digital Soil Mapping: An Introductory Perspective*. Developments in Soil Science, vol. 31. Elsevier B.V. doi: 10.1111/j.1365-2389.2007.00943\_6.x.
- Bui, E. 2007. A review of digital soil mapping in Australia. Pp. 25-37. In P. Lagacherie, A.B. McBratney and M. Voltz (Eds.) *Digital Soil Mapping: An Introductory Perspective*. Developments in Soil Science, volume 31. Elsevier B.V
- Baucer A and Black A L. 1994. Quantification of the effect of soil organic matter content on soil productivity. *Soil Science Society of America Journal* 58:185-93.
- Cavanaugh J E, Neath A A and Shumway R H. 1995. *A generalized derivation of the Schwarz information criterion* University of Missouri Columbia Technical Report Department of Statistics, Missouri.
- Cambardella, C.A. & Karlen, D.L. (1999). Spatial analysis of soil fertility parameters. *Precision Agriculture*, 1, 5-14.
- Chen, S., Zheng, Xi., Wang, D., Chen, L., Xu, C., & Zhang, X. (2012). Effect of long-term paddy-upland yearly rotations on rice (*Oryza sativa*) yield, soil properties, and bacteria community diversity. *The Scientific World Journal*, 2012, 1-11. doi:10.1100/2012/279641.
- Cressie, N.A.C. (1990). *The origins of kriging*. In: *Mathematical Geology*, 22, 239-252.
- Damanik, M. M. B., Bachtar, E. H., Fauzi., Sariffudin, & Hanum, H. (2010). *Kesuburan tanah dan pemupukan [Soil fertility and fertilization]*. USU Press, Medan.
- Doberman, A., Witt, C., Abdulrachman, S., Gines, H. C., Nagarajan, R., Son, T. T., Tan, P. S., Wang, G. H., Chien, N. V., Thoa, V. T. K., Phung, C. V., Stalin, P., Muthukrishnan, P., Ravi, V., Babu, M., Simbahan, G. C., & Adviento, M. A. A. (2003a). *Soil* fertility and indigenous nutrient supply in irrigated rice domains of Asia. *Agronomy Journal*, 95(1), 913-923. doi:10.2134/agronj2003.0913.
- Dobermann, A., Witt, C., Abdulrachman, S., Gines, H. C., Nagarajan, R., Son, T. T., Tan, P. S., Wang, G. H., Chien, N. V., Thoa, V. T. K., Phung, C. V., Stalin, P., Muthukrishnan, P., Ravi, V., Babu, M., Simbahan, G. C., Adviento, M. A. A., & Bartolom, V. (2003b). Estimating indigenous nutrient supplies for site-specific nutrient management in irrigated rice. *Agronomy Journal*, 95(1), 924-935. doi:10.2134/agronj2003.9240.

Epstein, E. (1999). Silicon in plants: Facts vs concepts. In: Datnoff et al. (Eds.). *Silicon in agriculture*, Elsevier Science, Amsterdam.

Fairhurst, T., C. Witt., R. Buresh, & A. Dobermann. 2007. Padi : Panduan Praktis Pengelolaan Hara (Terjemahan A. Widjono). International Rice Research Institute (IRRI), International Plant Nutrition Institute (IPNI), and International Potash Institute (IPI). Dipublikasi kerjasama IRRI, IPI-IPNI dengan Badan Litbang Pertanian. Jakarta.

Fairhurst, T.H. & C. Witt. 2002. Rice : A Practical Guide to Nutrient management. Potash & Potash Institute, Potash & Potash Institute of Canada, and IRRI.

FAO-UNESCO (1984). *Guidelines: Land evaluation for rain-fed agriculture*. FAO Soils Bulletin No. 52. Rome: Food and Agriculture Organization of the United Nations.p. 335.

Gardner J C and Clancy S A. 1996. Impact of farming practices on soil quality in North Dakhoda. pp 337-43. In Doran J W and Jones A J (eds.) Methods for assessing soil quality. SSSA Spec. Publ. 49. SSSA, Madison, WI.

Gertisser, R., Charbonnier, S. J., Keller, J., Quidelleur, X. (2012). The geological evolution of Merapi Volcano, Central Java, Indonesia. *Bulletin of Vulcanology*, 74, 1213-1233. doi:10.1007/s00445-012-0591-3.

Google Earth. 2015. Citra Satelit Wilayah dataran Waeapo, Pulau Buru, Maluku by Digital Globe, Tele Atlas, Map Data PlyLtd.

Haefele, S.M., Johnson, D.E., Diallo, S., Wopereis, M.C.S., Janin, L. (2000). *Improved soil fertility and weed management is profitable for irrigated rice farmers in the Sahel*. In: Field Crops Research, 66(2), 101-113. Available at: <https://www.deepdyve.com/lp/elsevier/improved-soil-fertility-and-weed-management-is-profitable-for-9iIoecZxPF>. last accessed: June, 29, 2018.

Harahap, A.J., Zaini, Z., Sembiring, H. (2002). *Keterkaitan antara peta P dan K skala 1:250.000 dengan skala 1:50.000 sebagai dasar penentuan rekomendasi pemupukan pada lahan sawah [The linkage between P and K maps of scale 1:250,000 with a scale of 1:50,000 as a basis for determining fertilizer recommendation on paddy-fields]*. Prosiding Pengelolaan Hara P dan K pada Padi Sawah. Bogor: Pusat Penelitian Tanah dan Agroklimat. pp. 59-76.

- Hewitt, A.E. (1993). *Predictive modelling in soil survey*. In: Soil & Fertilizers, 56, 305-314. Available at: <https://www.google.co.id/search?hl=id&tbm=isch&q=Hewitt+AE+1993+Predictive+modelling+in+soil+survey+Soil+%26+Fertilizers+56+305+314&sa=X&ved=0ahUKEwjUxdrMk4PcAhWYb30KHZqaCsAQpBcIIw&biw=1024&bih=471&dpr=1>. Last accessed: July, 3, 2018.
- Hewitt, A.E. 1993. Predictive modelling in soil survey. Soil and Fertilizer 56:305-314 Lagacherie, P. and A.B. McBratney. 2007. Spatial soil information systems and spatial soil inference systems: perspectives for digital Soil mapping. Pp 3-22. In P.
- Horta, M.D.C., Torrent, J. (2007). *The Olsen P method as an agronomic and environmental test for predicting phosphate release from acid soils*. In: Nutrient Cycling in Agroecosystems, 77(3), 283-292. doi: 10.1007/s10705-006-9066-2.
- Hristov, B. (2014). Genesis and characteristics of regosols and calcisols in the hills of South Danubian plain. *Silva Balcanica*, 15(2), 50-57.
- Islamiati, A. & Zulaika, E. (2015). Potensi *Azotobacter* sebagai pelarut fosfat [The potential of *Azotobacter* as a phosphate solvent]. *Jurnal Sains dan Seni Pomits*, 2(1), 2337-3520.
- Jaynes D B. 1996. *Improved soil mapping using electromagnetic induction surveys*. pp 169-79, In Robert *et al.* (eds.) Proceeding International Conference on Precision Agriculture, 3rd, Minneapolis, MN. 23-26 June 1996. ASA, CSSA, and SSSA, Madison, WI.
- Julianto E A, Suntoro W A, Dewi W S and Partoyo. 2018. Graphical approach to assess the soil fertility evaluation model validity for rice (case study: Southern area of Merapi Mountain, Indonesia. *IOP Conference Series: Earth and Environmental Science*. pp 1-7. Surakarta
- Khaki, B. D., Honarjoo, N., Davatgar, N., Jalalian, A., Golsefidi, H. T. (2017). Assessment of two soil fertility indexes to evaluate paddy fields for rice cultivation. *Sustainability*, 9(1299), 1-13. doi:10.3390/su9081299.
- Küçüker, M.A., Coptý, N., Oral, M.G.V., Onay, T.T., Yenigün, O., Mater, B. (2010). *Kriging-based estimation of the change in soil carbon stock in the coastal Black Sea region, Turkey*. Geophysical Research Abstracts vol.12. Vienna: EGU General Assembly 2010. p. 2036.
- Kumpawat B S. 2001. Production potential and economics of different crop sequences. *Indian Journal of Agronomy* 46(3): 421-4.



- Kyuma, K. 2004. *Fundamental Chemical reactions in submerged paddy soil*, In Paddy Soil Science. Kyoto University Press and Trans Pacific Press. P.60-114.
- Ladha J K. 2003. How extensive are yield decline in long-term rice wheat experiments in Asia? *Field Crops Research* **82**: 159-80.
- Lagacherie, P., McBratney, A.B. (2007). *Chapter 1.Spatial soil information systems and spatial soil inference systems: perspectives for Digital Soil Mapping*. In: Lagacherie, P., McBratney, A.B., Voltz, M. (Eds.), Digital Soil Mapping, an introductory perspective. Developments in soil science, vol. 31. Amsterdam:Elsevier, pp. 3-24. Available at: [https://books.google.co.id/books?id=H6Qd\\_g3NuX0C&pg=PA13&dq=Lagacherie,+P.,+McBratney,+A.B.\(2007\).+Chapter+1.Spatial+soil+information+systems+and+spatial+soil+inference+systems:+perspectives+for+Digital+Soil+Mapping.+In:+Lagacherie,+P.,+McBratney,+A.B.,+Voltz,+M.+\(Eds.\),+Digital+Soil+Mapping,+an+introductory+perspective.+Developments+in+soil+science,+vol.+31.+Amsterdam:Elsevier,+pp.+3-24&f=false](https://books.google.co.id/books?id=H6Qd_g3NuX0C&pg=PA13&dq=Lagacherie,+P.,+McBratney,+A.B.(2007).+Chapter+1.Spatial+soil+information+systems+and+spatial+soil+inference+systems:+perspectives+for+Digital+Soil+Mapping.+In:+Lagacherie,+P.,+McBratney,+A.B.,+Voltz,+M.+(Eds.),+Digital+Soil+Mapping,+an+introductory+perspective.+Developments+in+soil+science,+vol.+31.+Amsterdam:Elsevier,+pp.+3-24&f=false). Last accessed: June, 29, 2018.
- Lagacherie, P. (2008). *Digital Soil Mapping: A state of the art*. In: Hartemink, A.E., McBratney A.B., Mendonça-Santos, M. (Eds.) Digital Soil Mapping with limited data. Dordrecht: Springer. doi: 10.1007/978-1-4020-8592-5\_1.
- Makarim, A.K., Widiarta, I.N., Hendarsih, S., Abdulrachman, S. (2003). *Panduan teknis pengelolaan hara dan pengendalian hama penyakit tanaman padi secara terpadu*. [Technical guidance on integrated nutrient and pest management]. Bogor: Pusat Penelitian dan Pengembangan Tanaman Pangan. p. 37.
- McBratney AB & MJ Pringle. 1997. *Spatial variability in soil-implication for precision agriculture*. In: J.V. Stafford (ed) Precision Agriculture `97. Vol. I Bioss Scientific Publ. Ltd., Oxford, United Kingdom, pp.3-31.
- McKenzie, N.J. and P.J. Ryan. 1999. Spatial prediction of soil properties using environmental correlation. *Geoderma* 89:67-94
- McKenzie, N.J., Ryan, P.J. (1999). *Spatial prediction of soil properties using environmental correlation*. In: *Geoderma*, 89(1-2), 67-94. doi: 10.1016/S0016-7061(98)00137-2.
- Ming, L., Klemens, E., Zhang, B., Holzhauer, S.I., Li, Z., Zhang, T., Rauch, S. (2011). *Effect of intensive inorganic fertilizer application on microbial properties in a paddy soil of subtropical China*. In: *Agricultural Sciences in China*, 10(11), 1758-1764. doi: 10.1016/S1671-2927(11)60175-2.

- Mkhabela, M., Warman, P.R. (2005). *The influence of municipal solidwaste compost on yield, soil kaliumus availability and uptake by two vegetable crops, grown in a Pugwash sandy loam soil in Nova Scotia*. In: Agriculture, Ecosystems & Environment, 106(1), 57-67. doi: 10.1016/j.agee.2004.07.014.
- Muralidharudu, Y., Sammi Reddy, K., Mandal, B.N., Subba Rao, A., Singh, K.N., Sonekar, S. (2011). *GIS based soil fertility maps of different states of India. All India coordinated project on soil test crop response correlation*. Bhopal: Indian Institute of Soil Science, pp. 1- 224.
- Mushtaq, A.W., Wani, J.A., Bhat, M.A., Kirmani, N.A., Zahid, M.W., Shaista, N.B. (2013). Mapping of soil micronutrients in Kashmir agricultural landscape using ordinary kriging and indicator approach. In: Journal of the Indian Society Remote Sensing, 41(2), 319-329. doi: 10.1007/s12524-012-0242-3.
- Nahak, T., Mishra, K., Saren, S., Pogula, S. (2016). *GPS and GIS based soil fertility maps of Ranital KVK farm and identification of soil related production constraints*. International Journal of Agriculture Sciences, 8(51), 2242-2251. Available at: <http://www.bioinfopublication.org/jouarchive.php?opt=&joid=BPJ0000217>. Last accessed: July, 3, 2018. Agronomy Journal, 95, 913-923. doi:10.2134/agronj2003.0913.
- Nandagawali, S. N. (2015). Parameters of soil fertility (as a part of project on soil parameters monitoring with automatic irrigation system). *International Journal of Electrical and Electronics Research*, 3(4), 219-222
- Olsen, S.R., Cole, C.V., Watanabe, F.S., Dean, L. (1954). *Estimation of available kaliumus in soils by extraction with sodium bicarbonate* (US Department of Agriculture Circular 939). Washington D.C.: US Government Printing Office, pp. 19-33. Available at: <https://archive.org/stream/estimationofavai939olse#page/n1/mode/2up>. Last accessed: July, 3, 2018.
- Olson G L, McQuaid B G, Easterling K N and Scheyer J M. 1996. Quantifying soil condition and productivity in Nebraska. pp 357-69. In Doran J W and Jones A J (eds.) Methods for assessing soil quality. SSSA Spec. Publ. 49. SSSA, Madison, WI.
- Patton, M.Q. (2001). *Qualitative research and evaluation methods* (2nd Edition). Thousand Oaks, California: Sage Publications. Available at: <https://books.google.co.id/books?id=vNWIBAAQBAJ&printsec=frontco>

ver&hl=id&source=gbs\_book\_other\_versions#v=onepage&q&f=false.

Last accessed: July, 1, 2018.

Pusat Penelitian Tanah (1983). *Terms of reference, survai kapabilitas tanah* [*Terms of reference, survey of soil capability*]. Proyek Penelitian Pertanian Menunjang Transmigrasi (P3MT)]. Bogor: Pusat Penelitian Tanah, Badan Penelitian dan Pengembangan Pertanian.

Putri, R. E., Yahya, A., Adam, N. M., Abd Aziz, S. (2019). Rice yield prediction model with respect to crop healthiness and soil fertility. *Food Research*, 3(2), 171-176.

Rahman, S. & Parkinson, R. J. (2007). Productivity and soil fertility relationships in rice production systems, Bangladesh. *Agricultural Systems*, Vol?, 1-33. doi: 10.1016/j.agsy.2006.04.001.

Rao, A.S., Srivastava, S. (2000). *Soil test based fertilizer use: a must for sustainable agriculture*. In: Fertilizer News, 45, 25-38. Available at: <https://www.cabdirect.org/cabdirect/abstract/20001912843>. Last accessed: July, 2, 2018.

Rochayati, S., Adiningsih, S. (2002). *Pembinaan dan pengembangan program uji tanah untuk hara P dan K pada lahan sawah* [*Guidance and development of soil test program for P and K nutrients on paddy fields*]. Prosiding Pengelolaan Hara P dan K pada Padi Sawah. Bogor: Pusat Penelitian Tanah dan Agroklimat. pp. 9-37.

Roder, W., Phengchanh, S., & Keoboulapha, B. (1995). Relationships between soil, fallow period, weeds and rice yield in slash-and-burn systems of Laos. *Plant and Soil*, 176(1), 27-36.

Sanchez P A. 2010. Tripling crop yields in tropical Africa. *Nature Geo-Science* 3: 299-300.

Savant, N.K., Datnoff, L. E., & Snyder, G. H. (1997a). Depletion of plant available silicon in soils: a possible cause of declining rice yields. *Commun. Soil Sci. Plant Anal.*, 28, 1245-1252.

Savant, N.K., Snyder, G. H., & and Datnoff, L. E. (1997b). Silicon management and sustainable rice production, 151-199. In: *Advances in Agronomy*. Sparks, D. L. (Ed.). Academic Press, San Diego.

Schwarz G. 1978. Estimating the dimension of a model. *The Annals of Statistic* 6: 461-4.

- Scull, P., Franklin, J., Chadwick, O.A., McArthur, D. (2003). *Predictive soil mapping: A review*. In: *Progress in Physical Geography*, 27(2), 171-197. doi: 10.1191/0309133303pp366ra.
- Sharma, P.K., Sood, A., Setia, R.K., Verma, V.K., Mehra, D., Tur, N.S., Nayyar, V.K. (2008). *Mapping of macronutrients in soils of Amritsar District (Punjab)-A GIS approach*. In: *Journal of Indian Society of Soil Science*, 56(1), 34-41. Available at: [https://www.researchgate.net/profile/Harpinder\\_Singh/publication/207037889\\_Mapping\\_of\\_macronutrients\\_in\\_soils\\_of\\_Amritsar\\_district\\_Punjab\\_A\\_GIS\\_approach/links/541d543a0cf241a65a15e8a7/Mapping-of-macronutrients-in-soils-of-Amritsar-district-Punjab-A-GIS-approach.pdf](https://www.researchgate.net/profile/Harpinder_Singh/publication/207037889_Mapping_of_macronutrients_in_soils_of_Amritsar_district_Punjab_A_GIS_approach/links/541d543a0cf241a65a15e8a7/Mapping-of-macronutrients-in-soils-of-Amritsar-district-Punjab-A-GIS-approach.pdf). Last accessed: June, 30, 2018.
- Shukla, G., Mishra, G.C., Singh, S.K. (2015). *Kriging approach for estimating deficient micronutrients in the soil: A case study*. In: *International Journal of Agriculture, Environment and Biotechnology*, 8(2), 309-314. doi: 10.5958/2230-732X.2015.00038.8
- Sipahutar, A. H., Marbun, P., & Fauzi (2014). Kajian C-Organik, N dan P humitropepts pada ketinggian tempat yang berbeda di Kecamatan Lintong Nihuta [C-Organic studies, N and P humitropepts at different altitudes in Lintong Nihuta District]. *Jurnal Online Agroteknologi*, 2(4), ....
- Sitorus, A., Sitorus, B., & Sembiring, M. (2018). Kajian kesuburan tanah pada lahan pertanian di Kecamatan Lumban Julu, Kabupaten Toba Samosir [Survey of soil fertility on agriculture land at Lumban Julu District, Toba Samosir Regency]. *Jurnal Agroekoteknologi FP USU*, 6(2), 225-230.
- Sohn, L. B. (1973). The Stockholm Declaration on the human environment. *The Harvard International Law Journal*, 14, 430-432; 443-444 (US).
- Stone M. 1979. Comments on model selection criteria of Akaike and Schwarz. *Journal of the Royal Statistical Society, B* 41: 276-8.
- Sulakhudin, Suswati, D., & Gafur, S. (2017). Kajian status kesuburan tanah pada lahan sawah di Kecamatan Sungai Kunyit Kabupaten Menpawah [...]. *Jurnal Pedon Tropika*, 3(1), 106-114.
- Sulaeman, Y., B. Minasny, A.B. McBratney, A. Sutandi, B. Barus, and M. Sarwani. 2012. Soil-landscape models to predict soil pH variation at a regional scale in Java, Indonesia. In B. Minasny, B.P. Malone, A.B. McBratney (Eds.). *Digital Soil Assessment and Beyond*. CRC Press.



- Surya, E. S. & Suyono (2013). Pengaruh pengomposan terhadap rasio C/N kotoran ayam dan kadar hara NPK tersedia serta kapasitas tukar kation tanah [...]. *UNESA Journal of Chemistry*, 2(1),
- Susanto, AX 2005. Pemetaan dan Pengelolaan Status Kesuburan Tanah di Dataran Waeapo, Pulau Buru. *Jurnal Pengkajian dan Pengembangan Teknologi Pertanian*. Vol.8, No. 3., November 2005. Pusat Analisis Sosial Ekonomi dan Kebijakan Pertanian. Bogor.
- Swaminathan M S. 2006. An evergreen revolution. *Crop Science* 46(5): 2293-2303.
- Tabi, F. O., Ngobesing, E. S. C., Yinda, G. S., Boukong, A., Omoko, M., Bitondo, D. Mvondo Ze, A. D. (2013). Soil fertility capability classification (FCC) for rice production in Cameroon lowlands. *African Journal of Agricultural Research*, 8(119), 1650-1660. doi: 10.5897/AJAR12.1576.
- Talpur, M. A., Changying, J. I., Junejo, S. A., & Tagar, A. A. (2013). Impact of rice crop on soil quality and fertility. *Bulgarian Journal of Agricultural Science*, 19(6), 1287-1291.
- Tan, K. H. (1991). *Dasar-dasar kimia tanah*. Gadjah Mada University Press, Yogyakarta.
- UNU-IAS 2008. Environment for Africa Development: A Sustainable Future through Science and Technology. UNU-IAS Report.
- Vadivelu, S. (2007). *Soils of coastal ecosystem in the southern states and their problems and potentials for land use planning*. Proceedings of National Symposium on Soil Science Research, Indian Society of Soil Science, Kolkata, December, 7-9, pp. 31-35. Available at: [https://www.researchgate.net/publication/307950011\\_GIS\\_Applications\\_in\\_Agronomy](https://www.researchgate.net/publication/307950011_GIS_Applications_in_Agronomy). Last accessed: June, 28, 2018.

**DAFTAR PUBLIKASI HASIL DISERTASI**

1. Persebaran dan Dinamisasi Hara Asli Utama Tanah di Wilayah Selatan Gunung Merapi Kabupaten Sleman Propinsi DIY (Prosiding Semnas Tahun Ke-2 Call For Papers dan Pameran Hasil Penelitian dan Pengabdian Kemenristekdikti RI, Okt 2018) **Publish ( Prosiding Semnas) ISBN 978-602-60245-0-3**
2. Mapping of Indigenous Nutrient Status of Post-Eruption Soil to Support the Fertilizing of Rice (*Oryza sativa*) on the Southern Area of Merapi Mountain, Indonesia (Journal of Settlements and Spatial Planning) **Accepted** ( Jurnal ter indek **Scopus**) **DOI:10.24193/JSSP.2019.1.03**
3. Study of several relationship of fertility parameters on rice production of ciherang variety on regosol soils in the southern slopes of merapi, yogyakarta, indonesia ( Bulgaria Journal of Agricultural Science) **in review** (Jurnal ter indek **Scopus**)
4. Graphical approach to assess the soil fertility evaluation model validity for rice (case study: southern area of Merapi Mountain, Indonesia) (International Conference on Climate Change ICCC, 2017) **Publish** (Prosiding Seminar Internasional ter indek **Scopus**) **doi:10.1088/1755-1315/129/1/012012**
5. Modification Model of Soil Fertility Evaluation  
FAO-UNESCO on the Slopes of Merapi Volcano, Indonesia (Indian Journal of Agricultural Science, IJAgS) **in review** (Jurnal ter indek **Scopus**)