REFERENCES

Adedara, I. A., Mohammed, K. A., Da-Silva, O. F., Salaudeen, F. A., Gonçalves, F. L. S., Rosemberg, D. B., Aschner, M., Rocha, J. B. T., & Farombi, E. O. (2022). Utility of cockroach as a model organism in the assessment of toxicological impacts of environmental pollutants. *Environmental Advances*, *8*(October 2021), 100195. https://doi.org/10.1016/j.envadv.2022.100195

Aguiar, M., Anam, V., Blyuss, K. B., Estadilla, C. D. S., Guerrero, B. V., Knopoff, D., Kooi, B. W., Srivastav, A. K., Steindorf, V., & Stollenwerk, N. (2022). Mathematical models for dengue fever epidemiology: A 10-year systematic review. *Physics of Life Reviews*, *40*, 65–92. https://doi.org/10.1016/j.plrev.2022.02.001

Akoko, A. (2019). *An Investigation Into The Practice Of Henri Fayol ' s Principles Of Management In Ondo State Civil*. *7*(6), 1–17.

Alfonso-Sierra, E., Basso, C., Beltrán-Ayala, E., Mitchell-Foster, K., Quintero, J., Cortés, S., Manrique-Saide, P., Guillermo-May, G., Caprara, A., Carvalho de Lima, E., & Kroeger, A. (2016). Innovative dengue vector control interventions in Latin America: what do they cost? *Pathogens and Global Health*, *110*(1), 14–24. https://doi.org/10.1080/20477724.2016.1142057

Ann E. Hajek, J. E. (2018). *Natural Enemies: An Introduction to Biological Control* (second). Cambridge University Press.

ASSEMBLY-40TH SESSION EXECUTIVE COMMITTEE Agenda Item 26: Other high-level policy issues to be considered by the Executive Committee 14: Facilitation Programmes REPORT ON AIRCRAFT DISINSECTION AND VECTOR CONTROL

MEASURES (Presented by the Council of ICAO). (n.d.). https://apps.who.int/iris/handle/10665/279702.

Barton, M. (2012). Guide to Ship Sanitation. *International Journal of Environmental Studies*, *69*(5), 838–838. https://doi.org/10.1080/00207233.2011.606980

Bartumeus, F., Costa, G. B., Eritja, R., Kelly, A. H., Finda, M., Lezaun, J., Okumu, F., Megan Quinlan, M., Thizy, D. C., Toé, L. P., & Vaughan, M. (2019). Sustainable innovation in vector control requires strong partnerships with communities. *PLoS Neglected Tropical Diseases*, *13*(4), 1–5. https://doi.org/10.1371/journal.pntd.0007204

Boey, K., Shiokawa, K., & Rajeev, S. (2019). Leptospira infection in rats: A literature review of global prevalence and distribution. *PLoS Neglected Tropical Diseases*, *13*(8), 1–24. https://doi.org/10.1371/journal.pntd.0007499

Bramanti, B., Dean, K. R., Walløe, L., & Stenseth, N. C. (2019). The third plague pandemic in Europe. *Proceedings of the Royal Society B: Biological Sciences*, *286*(1901), 1–8. https://doi.org/10.1098/rspb.2018.2429

Brocato, R. L., & Hooper, J. W. (2019). Progress on the prevention and treatment of hantavirus disease. *Viruses*, *11*(7), 1–14. https://doi.org/10.3390/v11070610

Buhler, C., Winkler, V., Runge-Ranzinger, S., Boyce, R., & Horstick, O. (2019). Environmental methods for dengue vector control – A systematic review and meta-analysis. *PLoS Neglected Tropical Diseases*, *13*(7), 1–15. https://doi.org/10.1371/journal.pntd.0007420

Byers, K. A., Lee, M. J., Patrick, D. M., & Himsworth, C. G. (2019). Rats about town: A systematic review of rat movement in

urban ecosystems. *Frontiers in Ecology and Evolution*, *7*(JAN), 1–12. https://doi.org/10.3389/fevo.2019.00013

Ca, S., Susanto, H. S., & Unga, R. La. (2023). *Health Notions , Volume 7 Number 3 (March 2023) Sanitation and the Presence of Cockroaches on Ships at the Port of Yos Sudarso , Ambon 65 | Publisher : Humanistic Network for Science and Technology Health Notions , Volume 7 Number 3 (March 2023) 66 | . 7*(3), 65–68.

Cator, L. J., Johnson, L. R., Mordecai, E. A., El Moustaid, F., Smallwood, T. R. C., LaDeau, S. L., Johansson, M. A., Hudson, P. J., Boots, M., Thomas, M. B., Power, A. G., & Pawar, S. (2020). The Role of Vector Trait Variation in Vector-Borne Disease Dynamics. *Frontiers in Ecology and Evolution*, *8*(July). https://doi.org/10.3389/fevo.2020.00189

Cheng, Y.-L., Lee, C.-Y., Huang, Y.-L., Buckner, C. A., Lafrenie, R. M., Dénommée, J. A., Caswell, J. M., Want, D. A., Gan, G. G., Leong, Y. C., Bee, P. C., Chin, E., Teh, A. K. H., Picco, S., Villegas, L., Tonelli, F., Merlo, M., Rigau, J., Diaz, D., … Mathijssen, R. H. J. (2021). Environmental Manipulation: A Potential Tool for Mosquito Vector Control. *Intech*, *11*(tourism), 13.

Chika Aldila Cahyani,Yusniar Hanani, S. S. (2021). Relationship Between Sanitation Condition and Vector'S Existence on Vessels At the Working Areas of Port Health Office (Kkp) Class Ii Semarang in 2019. *International Journal of Health, Education and Social (IJHES)*, *4*(5), 10–19.

Dahmana, H., & Mediannikov, O. (2020). Mosquito-borne diseases emergence/resurgence and how to effectively control it biologically. *Pathogens*, *9*(4), 1–26. https://doi.org/10.3390/pathogens9040310

de Lima Cavalcanti, T. Y. V., Pereira, M. R., de Paula, S. O., & Franca, R. F. de O. (2022). A Review on Chikungunya Virus Epidemiology, Pathogenesis and Current Vaccine Development. *Viruses*, *14*(5). https://doi.org/10.3390/v14050969

Dehghani, R., & Kassiri, H. (2020). A brief review on the possible role of houseflies and cockroaches in the mechanical transmission of coronavirus disease 2019 (Covid-19). *Archives of Clinical Infectious Diseases*, *15*(COVID-19). https://doi.org/10.5812/archcid.102863

Diyana, S., Martini, M., Sutiningsih, D., & Wuryanto, M. A. (2021). Density of Cockroaches in Perimeter and Port Buffer Areas: Analysis of Sanitation and Physical Environment Factors. *Jurnal Aisyah : Jurnal Ilmu Kesehatan*, *6*(2), 347–352. https://doi.org/10.30604/jika.v6i2.487

Donkor, E. S. (2020). Cockroaches and Food-borne Pathogens. *Environmental Health Insights*, *14*. https://doi.org/10.1177/1178630220913365

Ezeakacha, N. F., & Yee, D. A. (2019). The role of temperature in affecting carry-over effects and larval competition in the globally invasive mosquito Aedes albopictus. *Parasites and Vectors*, *12*(1), 1–11. https://doi.org/10.1186/s13071-019-3391-1

Feng, J., Ma, Y., Chen, Z., Liu, Q., Yang, J., Gao, Y., Chen, W., Qian, K., & Yang, W. (2021). Development and Characterization of Pyriproxyfen-Loaded Nanoemulsion for Housefly Control: Improving Activity, Reducing Toxicity, and Protecting Ecological Environment. *ACS Sustainable Chemistry and Engineering*, *9*(14), 4988–4999. https://doi.org/10.1021/acssuschemeng.0c08105

Firmansyah, Y. W., Widyantoro, W., Pratama, Y., Rachmawati, I., Lewinsca, M. Y., & Ramadhansyah, M. F. (2022). Health Information : A Survey Study of Rat Vector in the Working Area of The Port Health Office Class II , Tarakan City. *JURMIK: Jurnal Rekam Medis Dan Manajemen Informasi Kesehatan*, *2*(1), 14–18.

Franklinos, L. H. V., Jones, K. E., Redding, D. W., & Abubakar, I. (2019). The effect of global change on mosquito-borne disease. *The Lancet Infectious Diseases*, *19*(9), e302–e312. https://doi.org/10.1016/S1473-3099(19)30161-6

Freeman, J. C., Ross, D. H., & Scott, J. G. (2019). Insecticide resistance monitoring of house fly populations from the United States. *Pesticide Biochemistry and Physiology*, *158*(April), 61–68. https://doi.org/10.1016/j.pestbp.2019.04.006

Geden, C. J., Nayduch, D., Scott, J. G., Burgess, E. R., Gerry, A. C., Kaufman, P. E., Thomson, J., Pickens, V., & Machtinger, E. T. (2021). House Fly (Diptera: Muscidae): Biology, Pest Status, Current Management Prospects, and Research Needs. *Journal of Integrated Pest Management*, *12*(1). https://doi.org/10.1093/jipm/pmaa021

Golding, N., Wilson, A. L., Moyes, C. L., Cano, J., Pigott, D. M., Velayudhan, R., Brooker, S. J., Smith, D. L., Hay, S. I., & Lindsay, S. W. (2015). Integrating vector control across diseases. *BMC Medicine*, *13*(1), 1–6. https://doi.org/10.1186/s12916-015-0491-4

Gondhalekar, A. D., Appel, A. G., Thomas, G. M., & Romero, A. (2021). A review of alternative management tactics employed for the control of various cockroach species (Order: Blattodea) in the USA. *Insects*, *12*(6), 1–20. https://doi.org/10.3390/insects12060550

Hastuti, S., Kesehatan, J., Poltekkes, L., & Makassar, K. (n.d.). *OBSERVASI TINGKAT KEPADATAN TIKUS DI LINGKUNGAN BUFFER DAN PERIMETER PELABUHAN SOEKARNO HATTA MAKASSAR OBSERVATION RATE OF RATS IN THE BUFFER AND PERIMETER OF SOEKARNO HATTA MAKASSAR PORT Sulasmi*.

Hayati, R. Z., Susanna, and D., & Susanna, D. (2020). the Human Pathogens Carried By the Cockroaches in the Food-Related Environment Potentially Causing a Foodborne Diseases: a Systematic Review. *Malaysian Journal of Public Health Medicine*, *20*(2), 159–170. https://doi.org/10.37268/mjphm/vol.20/no.2/art.271

Jeon, J. C., Kim, H. K., Koo, H. N., Kim, B. S., Yang, J. O., & Kim, G. H. (2022). Synergistic Effect of Cold Treatment Combined with Ethyl Formate Fumigation against Drosophila suzukii (Diptera: Drosophilidae). *Insects*, *13*(8). https://doi.org/10.3390/insects13080664

Jones, R. T., Ant, T. H., Cameron, M. M., Logan, J. G., & Jones, R. T. (2021). *Novel control strategies for mosquito- borne diseases*. 1–5.

Kasbawati, Ningsih, S., Ribal, A., & Fatmawati. (2019). An Optimal Integrated Vector Control for Prevention the Transmission of Dengue. *Journal of Physics: Conference Series*, *1245*(1). https://doi.org/10.1088/1742-6596/1245/1/012043

Khamesipour, F., Lankarani, K. B., Honarvar, B., & Kwenti, T. E. (2018). <家蝇携带病原菌-S12889-018-5934-3.Pdf>. *BMC Public Health*, *18*(1049), 1–15.

KKP. (2021). ANALYZING DATA FOR ADVANCED VECTORY OBSERVATION AND CONTROL AT WILKER MAKASSAR PORT

IN 2021. *Indonesian Journal of Health Sciences Research and Development (Ijhsrd)*, 23.

Kumar, G., Ojha, V. P., & Pasi, S. (2021). Applicability of attractive toxic sugar baits as a mosquito vector control tool in the context of India: a review. *Pest Management Science*, *77*(6), 2626–2634. https://doi.org/10.1002/ps.6226

Levchenko, M. A., Silivanova, E. A. evna, Bikinyaeva, R. K., & Balabanova, G. F. (2018). Efficacy of acetamiprid and fipronil fly baits against the housefly (Musca domestica L.) under laboratory conditions. *Veterinary World*, *11*(7), 953–958. https://doi.org/10.14202/vetworld.2018.953-958

Liu, Y., & Wang, L. (2022). *A mosquito vector control model based on incompatible and sterile insect techniques*.

Lun, Z. R., Wu, M. S., Chen, Y. F., Wang, J. Y., Zhou, X. N., Liao, L. F., Chen, J. P., Chow, L. M. C., & Chang, K. P. (2015). Visceral leishmaniasis in China: An endemic disease under Control. *Clinical Microbiology Reviews*, *28*(4), 987–1004. https://doi.org/10.1128/CMR.00080-14

Marhanto, E. D., & Depu, A. H. (2022). Sanitation And Temperature Factors Related To Existence Of Cockroach And Rats Vectors On Passenger Ship In Kendari City Port. *Indonesian Journal of Health Sciences Research and Development (Ijhsrd)*, *4*(2), 57–69. https://doi.org/10.36566/ijhsrd/vol4.iss2/132

Marquez, A., Khalil, R. A., Fourel, I., Ovarbury, T., Pinot, A., Rosine, A., Thalmensi, G., Jaffory, G., Kodjo, A., Benoit, E., & Lattard, V. (2019). Resistance to anticoagulant rodenticides in Martinique could lead to inefficient rodent control in a context of endemic leptospirosis. *Scientific Reports*, *9*(1), 1–11. https://doi.org/10.1038/s41598-019-49661-5

Meier, C. J., Rouhier, M. F., & Hillyer, J. F. (2022). Chemical Control of Mosquitoes and the Pesticide Treadmill: A Case for Photosensitive Insecticides as Larvicides. *Insects*, *13*(12). https://doi.org/10.3390/insects13121093

Memona, H., Manzoor, F., & Riaz, S. (2017). *Original Article Species Diversity and Distributional Pattern of Cockroaches in Lahore, Pakistan* (Vol. 11, Issue 2). http://jad.tums.ac.ir

Minter, A., Costa, F., Khalil, H., Childs, J., Diggle, P., Ko, A. I., & Begon, M. (2019). Optimal control of rat-borne leptospirosis in an urban environment. *Frontiers in Ecology and Evolution*, *7*(JUN), 1–10. https://doi.org/10.3389/fevo.2019.00209

Modlinska, K., & Pisula, W. (2020). The Norway rat, from an obnoxious pest to a laboratory pet. *ELife*, *9*, 1–13. https://doi.org/10.7554/elife.50651

Mordecai, E. A., Caldwell, J. M., Grossman, M. K., Lippi, C. A., Johnson, L. R., Neira, M., Rohr, J. R., Ryan, S. J., Savage, V., Shocket, M. S., Sippy, R., Stewart Ibarra, A. M., Thomas, M. B., & Villena, O. (2019). Thermal biology of mosquito-borne disease. *Ecology Letters*, *22*(10), 1690–1708. https://doi.org/10.1111/ele.13335

Musiime, A. K., Smith, D. L., Kilama, M., Rek, J., Arinaitwe, E., Nankabirwa, J. I., Kamya, M. R., Conrad, M. D., Dorsey, G., Akol, A. M., Staedke, S. G., Lindsay, S. W., & Egonyu, J. P. (2019). Impact of vector control interventions on malaria transmission intensity, outdoor vector biting rates and Anopheles mosquito species composition in Tororo, Uganda. *Malaria Journal*, *18*(1), 1–9. https://doi.org/10.1186/s12936-019-3076-4

Nájera, J. A., González-Silva, M., & Alonso, P. L. (2011). Some lessons for the future from the global malaria eradication programme (1955-1969). *PLoS Medicine*, *8*(1). https://doi.org/10.1371/journal.pmed.1000412

Nasirian, H., & Salehzadeh, A. (2019). Control of Cockroaches (Blattaria) in Sewers: A Practical Approach Systematic Review. *Journal of Medical Entomology*, *56*(1), 181–191. https://doi.org/10.1093/jme/tjy205

Nayduch, D., Neupane, S., Pickens, V., Purvis, T., & Olds, C. (2023). House Flies Are Underappreciated Yet Important Reservoirs and Vectors of Microbial Threats to Animal and Human Health. *Microorganisms*, *11*(3). https://doi.org/10.3390/microorganisms11030583

Niang, E. H. A., Bassene, H., Fenollar, F., & Mediannikov, O. (2018). Biological control of mosquito-borne diseases: The potential of wolbachia-based interventions in an IVM framework. *Journal of Tropical Medicine*, *2018*. https://doi.org/10.1155/2018/1470459

OMS. (2020). *Norms, standards and processes underpinning development of WHO recommendations on vector control*.

Onen, H., Luzala, M. M., Kigozi, S., Sikumbili, R. M., Muanga, C. J. K., Zola, E. N., Wendji, S. N., Buya, A. B., Balciunaitiene, A., Viškelis, J., Kaddumukasa, M. A., & Memvanga, P. B. (2023). Mosquito-Borne Diseases and Their Control Strategies: An Overview Focused on Green Synthesized Plant-Based Metallic Nanoparticles. *Insects*, *14*(3). https://doi.org/10.3390/insects14030221

Ortuño, M., Muñoz-Hernández, C., Risueño, J., Jumakanova, Z., Farinella, A., Vaselek, S., Bernal, L. J., Sánchez-López, P. F., Collantes, F., Ruiz de Ybáñez, R., Martínez-Carrasco, C.,

Pérez-Cutillas, P., & Berriatua, E. (2023). Effect of high-volume insecticide spraying on sand fly vectors in household gardens in Spain. *Zoonoses and Public Health*, *70*(6), 511–522. https://doi.org/10.1111/zph.13062

Pan, X., Wang, X., & Zhang, F. (2020). New insights into cockroach control: Using functional diversity of blattella germanica symbionts. *Insects*, *11*(10), 1–17. https://doi.org/10.3390/insects11100696

Purnianto, A., Hestiningsih, R., & Kusariana, N. (2019). Relationship of Behavioral Factors with Existence of Aedes Aegypti. In *JPHTCR* (Issue 2).

Purwanto, T., Pahruddin, M., Wududu, G., Nugraha, D. S., Azizah, R., Haksama, S., Yudhastuti, R., & Sulistyorini, L. (2014). Vector Control Program Evaluation Aedesaegypti in Port Health Office Class II Banjarmasin, South Kalimantan (Case Study Working Area Seaport Banjarmasin). *International Refereed Journal of Engineering and Science (IRJES)*, *3*(8), 61–65.

R, D., H, K., D, R., Tehrani, M., & F, G. (2019). Environmental management methods to control the vector of communicable diseases with emphasis on drainage: A review article. *Biomedical Research*, *30*(1), 160–168. https://doi.org/10.35841/biomedicalresearch.30-19-040

Rahelinirina, S., Scobie, K., Ramasindrazana, B., Andrianaivoarimanana, V., Rasoamalala, F., Randriantseheno, L. N., Rakotoniaina, J. S., Gorgé, O., Lambin, X., Valade, E., Telfer, S., & Rajerison, M. (2021). Rodent control to fight plague: field assessment of methods based on rat density reduction. *Integrative Zoology*, *16*(6), 868–885. https://doi.org/10.1111/1749-4877.12529

Ramadhani, F. Y. (2021). Analysis of Managerial Components in Mosquito Vectors (Aedes Aegypti) Control in the Buffer Area of the Class 1 Surabaya Port Health Office. *The Indonesian Journal of Public Health*, *16*(2), 230. https://doi.org/10.20473/ijph.v16i2.2021.230-241

Ranasinghe, H. A. K., & Amarasinghe, L. D. (2020). Naturally Occurring Microbiota Associated with Mosquito Breeding Habitats and Their Effects on Mosquito Larvae. *BioMed Research International*, *2020*. https://doi.org/10.1155/2020/4065315

Ronca, S. E., Ruff, J. C., & Murray, K. O. (2021). A 20-year historical review of west nile virus since its initial emergence in north america: Has west nile virus become a neglected tropical disease? *PLoS Neglected Tropical Diseases*, *15*(5), 1–20. https://doi.org/10.1371/journal.pntd.0009190

Setiati, N., Auliya, R., Partaya, P., Bodijantoro, F. P. M. H., Indriyanti, D. R., & Widiyaningrum, P. (2021). Types of Rats and Their Parasites That Potential to Transmit Disease in Tugu District, Semarang City. *Biosaintifika: Journal of Biology & Biology Education*, *13*(3), 363–368. https://doi.org/10.15294/biosaintifika.v13i3.33460

Sharma, S. N., & Singh, S. K. (2021). Model action plan for the implementation of vector surveillance at the international airports/ seaports: Point of entries (PoEs). *Journal of Communicable Diseases*, *53*(3), 60–68. https://doi.org/10.24321/0019.5138.202139

Sharma, V., Sharma, M., Dhull, D., Sharma, Y., Kaushik, S., & Kaushik, S. (2020). Zika virus: An emerging challenge to public health worldwide. *Canadian Journal of Microbiology*, *66*(2), 87–98. https://doi.org/10.1139/cjm-2019-0331

Shaw, W. R., & Catteruccia, F. (2019). Vector biology meets disease control: using basic research to fight vector-borne diseases. *Nature Microbiology*, *4*(1), 20–34. https://doi.org/10.1038/s41564-018-0214-7

Siedlecki, S. L. (2020). Understanding Descriptive Research Designs and Methods. *Clinical Nurse Specialist*, *34*(1), 8–12. https://doi.org/10.1097/NUR.0000000000000493

Silvério, M. R. S., Espindola, L. S., Lopes, N. P., & Vieira, P. C. (2020). Plant natural products for the control of Aedes aegypti: The main vector of important arboviruses. *Molecules*, *25*(15). https://doi.org/10.3390/molecules25153484

Smith Gueye, C., Newby, G., Gosling, R. D., Whittaker, M. A., Chandramohan, D., Slutsker, L., & Tanner, M. (2016). Strategies and approaches to vector control in nine malaria-eliminating countries: A cross-case study analysis. *Malaria Journal*, *15*(1), 1–14. https://doi.org/10.1186/s12936-015-1054-z

Sofiyan, S., & Keman, S. (2018). Ship Sanitation and Sanitary Behavior of the Crew Influences to the Presence of Rats on Cargo Ship in the Port of Tanjung Perak Surabaya. *Jurnal Kesehatan Lingkungan*, *9*(2), 145. https://doi.org/10.20473/jkl.v9i2.2017.145-153

Strand, T. M., & Lundkvist, Å. (2019). Rat-borne diseases at the horizon. A systematic review on infectious agents carried by rats in Europe 1995–2016. *Infection Ecology and Epidemiology*, *9*(1). https://doi.org/10.1080/20008686.2018.1553461

Supryatno, A., Murtini, S., & Hadi, U. K. (2018). Potency of Cockroaches (Periplaneta americana and Blattella

germanica) as Vector of Salmonellosis on Ships in Baubau Port. *Jurnal Riset Veteriner Indonesia (Journal of The Indonesian Veterinary Research)*, *2*(2), 63–69. https://doi.org/10.20956/jrvi.v2i2.4515

Takken, W., Snellen, W. B., Verhave, J. P., Knols, B. G. J., & Atmosoedjono, S. (1990). Environmental measures for malaria control in Indonesia - an historical review on species sanitation. In *Wageningen Agricultural University Papers* (Vols. 90–7).

Talapko, J., Škrlec, I., Alebić, T., Jukić, M., & Včev, A. (2019). Malaria: The past and the present. *Microorganisms*, *7*(6). https://doi.org/10.3390/microorganisms7060179

Thomas, M. B. (2018). Biological control of human disease vectors: a perspective on challenges and opportunities. *BioControl*, *63*(1), 61–69. https://doi.org/10.1007/s10526-017-9815-y

Tizifa, T. A., Kabaghe, A. N., McCann, R. S., van den Berg, H., Van Vugt, M., & Phiri, K. S. (2018). Prevention Efforts for Malaria. *Current Tropical Medicine Reports*, *5*(1), 41–50. https://doi.org/10.1007/s40475-018-0133-y

Torto, B., & Tchouassi, D. P. (2021). Grand Challenges in Vector-Borne Disease Control Targeting Vectors. *Frontiers in Tropical Diseases*, *1*(January), 2020–2022. https://doi.org/10.3389/fitd.2020.635356

Tourapi, C., & Tsioutis, C. (2022). Circular Policy: A New Approach to Vector and Vector-Borne Diseases' Management in Line with the Global Vector Control Response (2017–2030). *Tropical Medicine and Infectious Disease*, *7*(7). https://doi.org/10.3390/tropicalmed7070125

Turell, M. J. (2021). What Makes a Vector a Vector, and Why Is That Important? *Journal of the Florida Mosquito Control Association*,*68*(1),1–5. https://doi.org/10.32473/jfmca.v68i1.129092

van den Berg, H., da Silva Bezerra, H. S., Al-Eryani, S., Chanda, E., Nagpal, B. N., Knox, T. B., Velayudhan, R., & Yadav, R. S. (2021). Recent trends in global insecticide use for disease vector control and potential implications for resistance management. *Scientific Reports*, *11*(1), 1–12. https://doi.org/10.1038/s41598-021-03367-9

van den Berg, H., Velayudhan, R., & Yadav, R. S. (2021). Management of insecticides for use in disease vector control: Lessons from six countries in asia and the middle east. *PLoS Neglected Tropical Diseases*, *15*(4), 1–18. https://doi.org/10.1371/journal.pntd.0009358

Vargas-abasolo, R., Gutiérrez-cabrera, A. E., & Cruz-lópez, L. (2023). *Chagas disease vector control strategies : where we are and where we should go from here*. *May*. https://doi.org/10.1127/entomologia/2023/1882

Vatandoost, H. (2021). Dragonflies as an Important Aquatic Predator Insect and Their Potential for Control of Vectors of Different Diseases. *Journal of Marine Science*, *3*(3), 13–20. https://doi.org/10.30564/jms.v3i3.3121

Wahid, I., Ishak, H., Hafid, A., Fajri, M., Sidjal, S., Nurdin, A., Azikin, N. T., Sudirman, R., Hasan, H., Yusuf, M., Bachtiar, I., Hawley, W. A., Rosenberg, R., & Lobo, N. F. (2019). Integrated vector management with additional pre-transmission season thermal fogging is associated with a reduction in dengue incidence in Makassar, Indonesia: Results of an 8-year observational study. *PLoS Neglected*

Tropical Diseases, *13*(8). https://doi.org/10.1371/journal.pntd.0007606

Wahyuni, M. S., Cahyani, S. D., Azizah, R., & Diyanah, K. C. (2019). A systematic review on the effectiveness of biological larvaside the vector control efforts in dengue fever disease. *Malaysian Journal of Medicine and Health Sciences*, *15*, 66–69.

Wang, G. H., Gamez, S., Raban, R. R., Marshall, J. M., Alphey, L., Li, M., Rasgon, J. L., & Akbari, O. S. (2021). Combating mosquito-borne diseases using genetic control technologies. *Nature Communications*, *12*(1), 1–12. https://doi.org/10.1038/s41467-021-24654-z

Wilson, A. J., Morgan, E. R., Booth, M., Norman, R., Perkins, S. E., Hauffe, H. C., Mideo, N., Antonovics, J., McCallum, H., & Fenton, A. (2017). What is a vector? *Philosophical Transactions of the Royal Society B: Biological Sciences*, *372*(1719). https://doi.org/10.1098/rstb.2016.0085

Wilson, A. L., Boelaert, M., Kleinschmidt, I., Pinder, M., Scott, T. W., Tusting, L. S., & Lindsay, S. W. (2015). Evidence-based vector control? Improving the quality of vector control trials. *Trends in Parasitology*, *31*(8), 380–390. https://doi.org/10.1016/j.pt.2015.04.015

Wilson, A. L., Courtenay, O., Kelly-Hope, L. A., Scott, T. W., Takken, W., Torr, S. J., & Lindsay, S. W. (2020). The importance of vector control for the control and elimination of vector-borne diseases. In *PLoS Neglected Tropical Diseases* (Vol. 14, Issue 1). https://doi.org/10.1371/journal.pntd.0007831

Witmer, G. (2022). Rodents in Agriculture: A Broad Perspective. *Agronomy*, *12*(6). https://doi.org/10.3390/agronomy12061458

Witsqa Firmansyah, Y., Widyantoro, W., Yulianto Pratama, A., Rachmawati, I., Yayank Lewinsca, M., & Fadli Ramadhansyah, M. (2022). *Health Information : A Survey Study of Rat Vector in the Working Area of The Port Health Office Class II, Tarakan City*. *2*(1).

World Health Organization. (2009). *Guide to hygiene and sanitation in aviation.* World Health Organization.

World Health Organization. (2016a). Global technical strategy for malaria 2016–2030. *World Health Organization*, 1–35.

World Health Organization. (2016b). Vector Surveillance and Control at Ports, Airports, and Ground Crossings. *International Health Regulations*, 92.

World Health Organization (WHO). (2009). *DENGUE GUIDELINES FOR DIAGNOSIS, TREATMENT, PREVENTION AND CONTROL* (WHO Library Cataloguing-in-Publication Data, Ed.; New editio).

Yin, J. H., Kelly, P. J., & Wang, C. (2022). Flies as Vectors and Potential Sentinels for Bacterial Pathogens and Antimicrobial Resistance: A Review. *Veterinary Sciences*, *9*(6). https://doi.org/10.3390/vetsci9060300

Yoshizawa, O. (1997). Successful eradication programs on fruit flies in Japan. In *Research Bulletin of the Plant Protection Service (Japan)* (Vol. 33, pp. 1–10).

Zamli, Syafar, M., Palutturi, S., Suriah, Arsin, A. A., Hatta, & Amiruddin, R. (2019). Potential of rainfall, humidity and temperature, against the increasing of larvae in Makassar

City, Indonesia. *International Journal of Innovative Technology and Exploring Engineering*, *9*(1), 1485–1487. https://doi.org/10.35940/ijitee.A4296.119119

ATTACHMENT

ATTACHMENT 1

PEMERINTAH PROVINSI SULAWESI SELATAN
DINAS PENANAMAN MODAL DAN PELAYANAN TERPADU SATU PINTU
Jl.Bougenville No.5 Telp. (0411) 441077 Fax. (0411) 448936
Website : http://simap-new.sulselprov.go.id Email : ptsp@sulselprov.go.id
Makassar 90231

Nomor	: **28333/S.01/PTSP/2023**	**Kepada Yth.**
Lampiran	: -	1. Kepala Kantor Kesehatan Pelabuhan Kelas I, Wilker Pelabuhan Makassar
Perihal	: **Izin penelitian**	2. Kepala Kantor Kesehatan Pelabuhan Bandara Hasanuddin Makassar
		di- **Tempat**

Berdasarkan surat Dekan Fak. kesehatan Masayarakat UNHAS Makassar Nomor : 26467/UN4.14.8/PT.01.04/2023 tanggal 25 Oktober 2023 perihal tersebut diatas, mahasiswa/peneliti dibawah ini:

N a m a	:	**BELAL AHMED**
Nomor Pokok	:	K011181804
Program Studi	:	Kesehatan Masyarakat
Pekerjaan/Lembaga	:	Mahasiswa (S1)
Alamat	:	Jl. P. Kemerdekaan Km. 10. Makassar

Bermaksud untuk melakukan penelitian di daerah/kantor saudara dalam rangka menyusun SKRIPSI, dengan judul :

" VECTOR CONTROL MANAGEMENT OF CLASS I PORT HEALTH OFFICE IN MAKASSAR, INDONESIA "

Yang akan dilaksanakan dari : Tgl. ***01 November s/d 31 Desember 2023***

Sehubungan dengan hal tersebut diatas, pada prinsipnya kami ***menyetujui*** kegiatan dimaksud dengan ketentuan yang tertera di belakang surat izin penelitian.

Demikian Surat Keterangan ini diberikan agar dipergunakan sebagaimana mestinya.

Diterbitkan di Makassar
Pada Tanggal 26 Oktober 2023

KEPALA DINAS PENANAMAN MODAL DAN PELAYANAN TERPADU SATU PINTU PROVINSI SULAWESI SELATAN

ASRUL SANI, S.H., M.Si.
Pangkat : PEMBINA TINGKAT I
Nip : 19750321 200312 1 008

Tembusan Yth
1. Dekan Fak. kesehatan Masayarakat UNHAS Makassar di Makassar;
2. *Pertinggal.*

ATTACHMENT **2**

VECTOR DATA FROM AIRPORT 2018

KEGIATAN			SATUAN	JAN	FEB	MART	APRL	MEI	JUN	JULI	AGUST	SEPT	OKT	NOV	DES
1	**PENGAMATAN DAN PEMBERANTASAN NYAMUK**														
1.A	Nyamuk Aede Aegypti														
	1.A1	Bangunan diperiksa	**Rmh**												
	1.A1.1	a. Perimeter Area	Rmh												
	1.A1.2	b. Buffer Area	Rmh												
	1.A2	Cont. diperiksa	**Cont**												
	1.A2.1	a. Perimeter Area	Cont												
	1.A2.2	b. Buffer Area	Cont												
	1.A3	House Indek (HI):													
	1.A3.1	Perimeter	%												
	1.A3.2	Buffer	%												
	1.A4	Container Indek (CI):													
	1.A4.1	Perimeter	%												
	1.A4.2	Buffer	%												
	1.A5	Breteau Indek (BI)													
	1.A5.1	a. Perimeter Area	%												
	1.A5.2	b. Buffer Area	%												
1.B	Nyamuk Anopheles														
	1.B1	Survei Larva: Dipper Indeks													
	1.B1.1	Perimeter	%												
	1.B1.2	Buffer	%												
	1.B2	Man Hour Density (MHD)													
	1.B2.1	Perimeter	%												
	1.B2.2	Buffer	%												
	1.B3	Man Bitting Rate (MBR)													
	1.B3.1	Perimeter	%												
	1.B3.2	Buffer	%												
1.C	Pemakaian Insektisida		Ltr												
1.D	Pemakaian Larvasida		Kg												
1.E	Tindakan Fogging		Ha												
2	**PEMBERANTASAN TIKUS PINJAL**														
2,A	Jumlah Pemasangan Perangkap x Freq di Bang		Prkp	160	204	140	216	0	0	216	216	240	368	324	0
2,B	Tikus tertangkap		Ekor	2	2	4	5	0	0	4	7	5	5	5	0
2,C	Pemasangan rat guard		Bh												
2,D	Index Pinjal		Ratio	0	0	0	0	0	0	0	0.7	0	2	0	0
2,E	Pemakaian Insektisida		Ltr/Kg												
2,F	Pemakaian Rodentisida		Kg												
3	**PENGENDALIAN LALAT**														
3,A	Tingkat kepadatan lalat		Ekor	2	2	2	10	2	3	15	2	3	3	5	6
3,B	Tindakan Penyemprotan		M2	0	0	0	3000	0	0	3000	0	0	3000	3000	0
3,C	Pemakaian Insektisida		Ltr/Kg	0	0	0	0.3	0	0	0.3	0	0	0.3	0.3	0
4	**PENGENDALIAN KECOA**														
4,A	Survei kehidupan kecoa		Ekor	2	5	7	4	4	5	5	5	5	4	4	2
4,B	Tindakan Penyemprotan		M2	0	0	0	0	0	0	0	0	0	0	0	0
4,C	Pemakaian Insektisida		Ltr/Kg	0	0	0	0	0	0	0	0	0	0	0	0

2019

KEGIATAN			SATUAN	JAN	FEB	MART	APRL	MEI	JUN	JULI	AGUST	SEPT	OKT	NOV	DES
1	**PENGAMATAN DAN PEMBERANTASAN NYAMUK**														
1.A	Nyamuk Aede Aegypti														
	1.A1	Bangunan diperiksa	**Rmh**												
	1.A1.1	a. Perimeter Area	Rmh												
	1.A1.2	b. Buffer Area	Rmh												
	1.A2	Cont. diperiksa	**Cont**												
	1.A2.1	a. Perimeter Area	Cont												
	1.A2.2	b. Buffer Area	Cont												
	1.A3	House Indek (HI):													
	1.A3.1	Perimeter	%												
	1.A3.2	Buffer	%												
	1.A4	Container Indek (CI):													
	1.A4.1	Perimeter	%												
	1.A4.2	Buffer	%												
	1.A5	Breteau Indek (BI)													
	1.A5.1	a. Perimeter Area	%												
	1.A5.2	b. Buffer Area	%												
1.B	Nyamuk Anopheles														
	1.B1	Survei Larva: Dipper Indeks													
	1.B1.1	Perimeter	%												
	1.B1.2	Buffer	%												
	1.B2	Man Hour Density (MHD)													
	1.B2.1	Perimeter	%												
	1.B2.2	Buffer	%												
	1.B3	Man Bitting Rate (MBR)													
	1.B3.1	Perimeter	%												
	1.B3.2	Buffer	%												
1.C	Pemakaian Insektisida		Ltr												
1.D	Pemakaian Larvasida		Kg												
1.E	Tindakan Fogging		Ha												
2	**PEMBERANTASAN TIKUS PINJAL**														
2,A	Jumlah Pemasangan Perangkap x Freq di Bang		Prkp	280	336	240	227	0	240	227	272	232	0	264	0
2,B	Tikus tertangkap		Ekor	0	11	4	2	0	0	0	0	1	0	6	0
2,C	Pemasangan rat guard		Bh												
2,D	Index Pinjal		Ratio	0	0	0	0	0	0	0	0	0	0	6.5	0
2,E	Pemakaian Insektisida		Ltr/Kg												
2,F	Pemakaian Rodentisida		Kg												
3	**PENGENDALIAN LALAT**														
3,A	Tingkat kepadatan lalat		Ekor	10	5	2	6	2	6	7	5	16	21	15	11
3,B	Tindakan Penyemprotan		M2	4000	4000	4000	4000	0	4000	4000	3000	3000	3000	3000	3000
3,C	Pemakaian Insektisida		Ltr/Kg	0.32	0.32	0.32	0.32	0	0.4	0.4	0.3	0.3	0.3	0.3	0.3
4	**PENGENDALIAN KECOA**														
4,A	Survei kehidupan kecoa		Ekor	2	5	7	14	11	14	9	9	5	5	4	13
4,B	Tindakan Penyemprotan		M2	0	0	0	0	0	0	0	0	0	0	0	0
4,C	Pemakaian Insektisida		Ltr/Kg	0	0	0	0	0	0	0	0	0	0	0	0

2020

KEGIATAN			SATUAN	JAN	FEB	MART	APRL	MEI	JUN	JULI	AGUST	SEPT	OKT	NOV	DES
1	PENGAMATAN DAN PEMBERANTASAN NYAMUK														
1.A	Nyamuk Aede Aegypti														
	1.A1	Bangunan diperiksa	Rmh	54	54	55	54	55	55	135	120	115	111	111	111
	1.A1.1	a. Perimeter Area	Rmh	54	54	55	54	55	55	55	55	55	56	56	56
	1.A1.2	b. Buffer Area	Rmh	0	0	0	0	0	0	80	65	60	55	55	55
	1.A2	Cont. diperiksa	Cont												
	1.A2.1	a. Perimeter Area	Cont												
	1.A2.2	b. Buffer Area	Cont												
	1.A3	House Indek (HI):													
	1.A3.1	Perimeter	%	1.8	3.7	1.8	1.8	1.8	3.6	1.8	0	0	0	3.6	0
	1.A3.2	Buffer	%	0	0	0	0	0	0	18.75	3.1	5	3.6	1.8	0
	1.A4	Container Indek (CI):													
	1.A4.1	Perimeter	%												
	1.A4.2	Buffer	%												
	1.A5	Breteau Indek (BI)													
	1.A5.1	a. Perimeter Area	%												
	1.A5.2	b. Buffer Area	%												
1.B	Nyamuk Anopheles														
	1.B1	Survei Larva: Dipper Indeks													
	1.B1.1	Perimeter	%	0.74	0.08	1.75	0	0	0.21	0.06	0.06	0	0	0	0.05
	1.B1.2	Buffer	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.B2	Man Hour Density (MHD)													
	1.B2.1	Perimeter	%												
	1.B2.2	Buffer	%												
	1.B3	Man Bitting Rate (MBR)													
	1.B3.1	Perimeter	%	0	0.89	0	0	0	0	0	3.33	0	0	0	0
	1.B3.2	Buffer	%	0	0	0	0	0	0	0	0	0	0	0	0
1.C	Pemakaian Insektisida		Ltr												
1.D	Pemakaian Larvasida		Kg												
1.E	Tindakan Fogging		Ha												
2	PEMBERANTASAN TIKUS PINJAL														
2,A	Jumlah Pemasangan Perangkap x Freq di Bang		Prkp	384	0	322	0	264	392	0	360	268	265	320	327
2,B	Tikus tertangkap		Ekor	10	0	7	0	5	5	0	7	3	2	3	3
2,C	Pemasangan rat guard		Bh												
2,D	Index Pinjal		Ratio	0.9	0	0	0	0	0.2	0	0	0	0	0	0
2,E	Pemakaian Insektisida		Ltr/Kg												
2,F	Pemakaian Rodentisida		Kg												
3	PENGENDALIAN LALAT														
3,A	Tingkat kepadatan lalat		Ekor	0	0	0	0	0	0	0	0	0	0	0	0
3,B	Tindakan Penyemprotan		M2	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
3,C	Pemakaian Insektisida		Ltr/Kg	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
4	PENGENDALIAN KECOA														
4,A	Survei kehidupan kecoa		Ekor	7	6	4	5	4	5	4	7	7	7	18	17
4,B	Tindakan Penyemprotan		M2	0	0	0	0	0	0	0	0	0	0	0	0
4,C	Pemakaian Insektisida		Ltr/Kg	0	0	0	0	0	0	0	0	0	0	0	0

2021

KEGIATAN			SATUAN	JAN	FEB	MART	APRL	MEI	JUN	JULI	AGUST	SEPT	OKT	NOV	DES
1	PENGAMATAN DAN PEMBERANTASAN NYAMUK														
1.A	Nyamuk Aede Aegypti														
	1.A1	Bangunan diperiksa	Rmh	54	54	58	58	58	57	57	55	54	54	54	54
	1.A1.1	a. Perimeter Area	Rmh	54	54	58	58	58	57	57	55	54	54	54	54
	1.A1.2	b. Buffer Area	Rmh	0	0	0	0	0	0	0	0	0	0	0	0
	1.A2	Cont. diperiksa	Cont												
	1.A2.1	a. Perimeter Area	Cont												
	1.A2.2	b. Buffer Area	Cont												
	1.A3	House Indek (HI):													
	1.A3.1	Perimeter	%	0	0	1.7	0	1.7	0	0	0	1.8	1.8	0	0
	1.A3.2	Buffer	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.A4	Container Indek (CI):													
	1.A4.1	Perimeter	%												
	1.A4.2	Buffer	%												
	1.A5	Breteau Indek (BI)													
	1.A5.1	a. Perimeter Area	%												
	1.A5.2	b. Buffer Area	%												
1.B	Nyamuk Anopheles														
	1.B1	Survei Larva: Dipper Indeks													
	1.B1.1	Perimeter	%	0	0	0	0.05	0.04	0.14	0.04	0.18	0.06	0.16	0.12	0.11
	1.B1.2	Buffer	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.B2	Man Hour Density (MHD)													
	1.B2.1	Perimeter	%												
	1.B2.2	Buffer	%												
	1.B3	Man Bitting Rate (MBR)													
	1.B3.1	Perimeter	%	0	0	0	0	0	0	0	0	0	0.89	0	0
	1.B3.2	Buffer	%	0	0	0	0	0	0	0	0	0	0	0	0
1.C	Pemakaian Insektisida		Ltr												
1.D	Pemakaian Larvasida		Kg												
1.E	Tindakan Fogging		Ha												
2	PEMBERANTASAN TIKUS PINJAL														
2,A	Jumlah Pemasangan Perangkap x Freq di Bang		Prkp	0	480	480	0	400	400	400	0	400	400	440	0
2,B	Tikus tertangkap		Ekor	0	11	5	0	5	2	4	0	3	3	2	0
2,C	Pemasangan rat guard		Bh												
2,D	Index Pinjal		Ratio	0	0	0	0	0	0	0	0	0	0	0	0
2,E	Pemakaian Insektisida		Ltr/Kg												
2,F	Pemakaian Rodentisida		Kg												
3	PENGENDALIAN LALAT														
3,A	Tingkat kepadatan lalat		Ekor	16	10	5	9	6	14	11	4	5	10	6	0
3,B	Tindakan Penyemprotan		M2	3500	3500	3500	3500	3500	3500	3500	1500	1700	1700	1700	1500
3,C	Pemakaian Insektisida		Ltr/Kg	0.14	0.35	0.35	0.35	0.35	0.35	0.35	0.3	0.35	0.25	0.25	0.3
4	PENGENDALIAN KECOA														
4,A	Survei kehidupan kecoa		Ekor	7	8	8	11	14	10	24	14	10	22	22	22
4,B	Tindakan Penyemprotan		M2	0	0	0	0	0	0	0	0	0	0	0	0
4,C	Pemakaian Insektisida		Ltr/Kg	0	0	0	0	0	0	0	0	0	0	0	0

2022

KEGIATAN			SATUAN	JAN	FEB	MART	APRL	MEI	JUN	JULI	AGUST	SEPT	OKT	NOV	DES
1	**PENGAMATAN DAN PEMBERANTASAN NYAMUK**														
1.A	Nyamuk Aede Aegypti														
	1.A1	Bangunan diperiksa	**Rmh**												
	1.A1.1	a. Perimeter Area	Rmh	55	55	55	55	56	56	54	54	54	54	55	54
	1.A1.2	b. Buffer Area	Rmh	0	0	0	0	0	0	0	0	0	91	0	0
	1.A2	Cont. diperiksa	**Cont**												
	1.A2.1	a. Perimeter Area	Cont												
	1.A2.2	b. Buffer Area	Cont												
	1.A3	House Indek (HI):													
	1.A3.1	Perimeter	%	0	0	1.8	0	3.6	1.8	1.8	1.8	3.7	0	1.8	0
	1.A3.2	Buffer	%	0	0	0	0	0	0	0	0	0	29	0	0
	1.A4	Container Indek (CI):													
	1.A4.1	Perimeter	%												
	1.A4.2	Buffer	%												
	1.A5	Breteau Indek (BI)													
	1.A5.1	a. Perimeter Area	%												
	1.A5.2	b. Buffer Area	%												
1.B	Nyamuk Anopheles														
	1.B1	Survei Larva: Dipper Indeks													
	1.B1.1	Perimeter	%	0.04	0	0.5	0.06	0	0	0	0	0.16	0.03	0.07	0.37
	1.B1.2	Buffer	%	0	0	0	0	0	0	0	0	0.27	0.21	0.17	0.4
	1.B2	Man Hour Density (MHD)													
	1.B2.1	Perimeter	%												
	1.B2.2	Buffer	%												
	1.B3	Man Bitting Rate (MBR)													
	1.B3.1	Perimeter	%												
	1.B3.2	Buffer	%												
1.C	Pemakaian Insektisida		Ltr												
1.D	Pemakaian Larvasida		Kg												
1.E	Tindakan Fogging		Ha												
2	**PEMBERANTASAN TIKUS PINJAL**														
2,A	Jumlah Pemasangan Perangkap x Freq di Bang		Prkp	400	0	400	400	0	440	440	0	400	400	400	400
2,B	Tikus tertangkap		Ekor	5	0	8	4	0	7	3	0	4	3	1	1
2,C	Pemasangan rat guard		Bh												
2,D	Index Pinjal		Ratio	0	0	0.25	0	0	0	0	0	0	0	0	0
2,E	Pemakaian Insektisida		Ltr/Kg												
2,F	Pemakaian Rodentisida		Kg												
3	**PENGENDALIAN LALAT**														
3,A	Tingkat kepadatan lalat		Ekor	0	0	0	0	1	1	1	5	1	0	1	0
3,B	Tindakan Penyemprotan		M2	1000	1000	1000	1000	1000	1000	1300	1000	1000	1400	1400	1200
3,C	Pemakaian Insektisida		Ltr/Kg	0.25	0.25	0.25	0.25	0.25	0.25	0.75	0.15	0.15	0.35	0.375	0.25
4	**PENGENDALIAN KECOA**														
4,A	Survei kehidupan kecoa		Ekor	15.2	27.6	31.9	136	16.9	108.8	10.8	95	7.8	67.3	18.5	102.4
4,B	Tindakan Penyemprotan		M2	0	0	0	0	0	0	0	0	0	0	0	0
4,C	Pemakaian Insektisida		Ltr/Kg	0	0	0	0	0	0	0	0	0	0	0	0

ATTACHMENT 3

VECTOR DATA FROM AIRPORT 2018

KEGIATAN			SATUAN	JAN	FEB	MART	APRL	MEI	JUN	JULI	AGUST	SEPT	OKT	NOV	DES
1	**PENGAMATAN DAN PEMBERANTASAN NYAMUK**														
1.A	Nyamuk Aede Aegypti														
	1.A1	Bangunan diperiksa	**Rmh**	14	14	17	18	18	18	20	24	21	21	23	23
	1.A1.1	a. Perimeter Area	Rmh	14	14	17	18	18	18	20	24	21	21	23	23
	1.A1.2	b. Buffer Area	Rmh	0	0	0	0	0	0	0	0	0	0	0	0
	1.A2	Cont. diperiksa	**Cont**	76	79	65	70	70	78	135	137	36	37	35	102
	1.A2.1	a. Perimeter Area	Cont	76	79	65	70	70	78	135	137	36	37	35	102
	1.A2.2	b. Buffer Area	Cont	0	0	0	0	0	0	0	0	0	0	0	0
	1.A3	House Indek (HI):													
	1.A3.1	Perimeter	%	0.7	0	0	11.1	5.5	0.11	5	4	5	0	0	17
	1.A3.2	Buffer	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.A4	Container Indek (CI):													
	1.A4.1	Perimeter	%	0.3	0	0	4.2	3.1	0.06	1	2	3	0	0	33
	1.A4.2	Buffer	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.A5	Breteau Indek (BI)													
	1.A5.1	a. Perimeter Area	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.A5.2	b. Buffer Area	%	0	0	0	0	0	0	0	0	0	0	0	0
1.B	Nyamuk Anopheles														
	1.B1	Survei Larva: Dipper Indeks													
	1.B1.1	Perimeter	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.B1.2	Buffer	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.B2	Man Hour Density (MHD)													
	1.B2.1	Perimeter	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.B2.2	Buffer	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.B3	Man Bitting Rate (MBR)													
	1.B3.1	Perimeter	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.B3.2	Buffer	%	0	0	0	0	0	0	0	0	0	0	0	0
1.C	Pemakaian Insektisida		Ltr	0	0	0	0	0	0	0	0	0	0	0	0
1.D	Pemakaian Larvasida		Kg	1	0,25	0	1	1	0	0	0	0	0	0	0
1.E	Tindakan Fogging		Ha	0	0	0	0	0	0	0	0	0	0	0	0
2	**PEMBERANTASAN TIKUS PINJAL**														
2,A	Jumlah Pemasangan Perangkap x Freq di Bang		Prkp	200	190	240	0	120	160	0	0	128	83	104	104
2,B	Tikus tertangkap		Ekor	13	11	11	0	4	7	0	0	5	1	3	0
2,C	Pemasangan rat guard		Bh	0	0	0	0	0	0	0	0	0	0	0	0
2,D	Index Pinjal		Ratio	0	0	0	0	0	0	0	0	0	0	0	0
2,E	Pemakaian Insektisida		Ltr/Kg	0	0	0	0	0	0	0	0	0	0	0	0
2,F	Pemakaian Rodentisida		Kg	0	0	0	0	0	0	0	0	1.04	0	0	0
3	**PENGENDALIAN LALAT**														
3,A	Tingkat kepadatan lalat		Ekor	11	9	1	0	8	8	7	0	4	3	3	8
3,B	Tindakan Penyemprotan		M2	0	0	0	0	0	0	0	0	0	0	0	0
3,C	Pemakaian Insektisida		Ltr/Kg	0	0	0	0	0	0	0	0	0	0	0	0
4	**PENGENDALIAN KECOA**														
4,A	Survei kehidupan kecoa		Ekor	0	0	0	0	0	0	0	0	0	0	0	0
4,B	Tindakan Penyemprotan		M2	0	0	0	0	0	0	0	0	0	0	0	0
4,C	Pemakaian Insektisida		Ltr/Kg	0	0	0	0	0	0	0	0	0	0	0	0

2019

KEGIATAN			SATUAN	JAN	FEB	MART	APRL	MEI	JUN	JULI	AGUST	SEPT	OKT	NOV	DES
1	PENGAMATAN DAN PEMBERANTASAN NYAMUK														
1.A	Nyamuk Aede Aegypti														
	1.A1	Bangunan diperiksa	Rmh	22	27	14	14	27	26	22	28	28	20	20	28
	1.A1.1	a. Perimeter Area	Rmh	22	27	14	14	27	26	22	28	28	20	20	28
	1.A1.2	b. Buffer Area	Rmh	0	0	0	0	0	0	0	0	0	0	0	0
	1.A2	Cont. diperiksa	Cont	191	113	73	45	113	6	45	2	2	2	2	2
	1.A2.1	a. Perimeter Area	Cont	191	113	73	45	113	6	45	2	2	2	2	2
	1.A2.2	b. Buffer Area	Cont	0	0	0	0	0	0	0	0	0	0	0	0
	1.A3	House Indek (HI):													
	1.A3.1	Perimeter	%	18	22	35	80	22	15	13	3.5	3.5	10	10	3.5
	1.A3.2	Buffer	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.A4	Container Indek (CI):													
	1.A4.1	Perimeter	%	1	29	17	22	29	8	13	3.77	3.77	2	3.6	3.77
	1.A4.2	Buffer	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.A5	Breteau Indek (BI)													
	1.A5.1	a. Perimeter Area	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.A5.2	b. Buffer Area	%	0	0	0	0	0	0	0	0	0	0	0	0
1.B	Nyamuk Anopheles														
	1.B1	Survei Larva: Dipper Indeks													
	1.B1.1	Perimeter	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.B1.2	Buffer	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.B2	Man Hour Density (MHD)													
	1.B2.1	Perimeter	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.B2.2	Buffer	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.B3	Man Bitting Rate (MBR)													
	1.B3.1	Perimeter	%												
	1.B3.2	Buffer	%												
1.C	Pemakaian Insektisida		Ltr												
1.D	Pemakaian Larvasida		Kg												
1.E	Tindakan Fogging		Ha												
2	PEMBERANTASAN TIKUS PINJAL														
2,A	Jumlah Pemasangan Perangkap x Freq di Bang		Prkp	344	200	114	0	175	150	0	400	50	0	200	200
2,B	Tikus tertangkap		Ekor	14	0	2	0	2	2	0	12	4	0	5	4
2,C	Pemasangan rat guard		Bh												
2,D	Index Pinjal		Ratio	0	0	0	0	0	0	0	0	0	0	0	0
2,E	Pemakaian Insektisida		Ltr/Kg												
2,F	Pemakaian Rodentisida		Kg												
3	PENGENDALIAN LALAT														
3,A	Tingkat kepadatan lalat		Ekor	0	8	2	8	23	11	5	8.25	13	0	30	7
3,B	Tindakan Penyemprotan		M2	0	0	0	0	40	0	0	10	0	20	50	0
3,C	Pemakaian Insektisida		Ltr/Kg	0	0	0	0	0.3	0	0	0.25	0	14.8	0.25	0
4	PENGENDALIAN KECOA														
4,A	Survei kehidupan kecoa		Ekor	0	0	0	0	0	0	4	12	12	16	20	10
4,B	Tindakan Penyemprotan		M2	0	0	0	0	0	0	0	0	0	0	0	0
4,C	Pemakaian Insektisida		Ltr/Kg	0	0	0	0	0	0	0	0	0	0	0	0

2020

KEGIATAN			SATUAN	JAN	FEB	MART	APRL	MEI	JUN	JULI	AGUST	SEPT	OKT	NOV	DES
1	PENGAMATAN DAN PEMBERANTASAN NYAMUK														
1.A	Nyamuk Aede Aegypti														
	1.A1	Bangunan diperiksa	Rmh	29	28	28	28	29	28	47	50	47	46	55	64
	1.A1.1	a. Perimeter Area	Rmh	29	28	28	28	29	28	28	28	28	19	28	29
	1.A1.2	b. Buffer Area	Rmh	0	0	0	0	0	0	19	22	19	27	27	35
	1.A2	Cont. diperiksa	Cont												
	1.A2.1	a. Perimeter Area	Cont												
	1.A2.2	b. Buffer Area	Cont												
	1.A3	House Indek (HI):													
	1.A3.1	Perimeter	%	20.68	7.14	17.8	25	25	7	7	7	14	16	0	3
	1.A3.2	Buffer	%	0	0	0	0	0	0	10.52	4.5	15.78	3.7	3.7	5.71
	1.A4	Container Indek (CI):													
	1.A4.1	Perimeter	%												
	1.A4.2	Buffer	%												
	1.A5	Breteau Indek (BI)													
	1.A5.1	a. Perimeter Area	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.A5.2	b. Buffer Area	%	0	0	0	0	0	0	0	0	0	0	0	0
1.B	Nyamuk Anopheles														
	1.B1	Survei Larva: Dipper Indeks													
	1.B1.1	Perimeter	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.B1.2	Buffer	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.B2	Man Hour Density (MHD)													
	1.B2.1	Perimeter	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.B2.2	Buffer	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.B3	Man Bitting Rate (MBR)													
	1.B3.1	Perimeter	%												
	1.B3.2	Buffer	%												
1.C	Pemakaian Insektisida		Ltr												
1.D	Pemakaian Larvasida		Kg												
1.E	Tindakan Fogging		Ha												
2	PEMBERANTASAN TIKUS PINJAL														
2,A	Jumlah Pemasangan Perangkap x Freq di Bang		Prkp	160	400	0	379	379	366	242	366	374	374	242	242
2,B	Tikus tertangkap		Ekor	6	15	0	7	7	2	2	2	8	6	2	6
2,C	Pemasangan rat guard		Bh												
2,D	Index Pinjal		Ratio	1.16	0	0	0	0.6	0	0	0	0.25	0.33	0	0
2,E	Pemakaian Insektisida		Ltr/Kg												
2,F	Pemakaian Rodentisida		Kg												
3	PENGENDALIAN LALAT														
3,A	Tingkat kepadatan lalat		Ekor	11	5	17	3.8	8	5	8.16	4.64	11.48	17	8	12.6
3,B	Tindakan Penyemprotan		M2	0	20	0	0	0	10	10	10	10	10	10	10
3,C	Pemakaian Insektisida		Ltr/Kg	0	0.25	1	1	1	1	1	1	0.25	0.25	0.25	0.25
4	PENGENDALIAN KECOA														
4,A	Survei kehidupan kecoa		Ekor	2	0	1	4	0	0	2	0	4	0	6	8
4,B	Tindakan Penyemprotan		M2	0	0	0	0	0	0	0	0	0	0	10	10
4,C	Pemakaian Insektisida		Ltr/Kg	0	0	0	0	0	0	0	0	0	0	0.25	0.25

2021

KEGIATAN			SATUAN	JAN	FEB	MART	APRL	MEI	JUN	JULI	AGUST	SEPT	OKT	NOV	DES
1	**PENGAMATAN DAN PEMBERANTASAN NYAMUK**														
1.A	Nyamuk Aede Aegypti														
	1.A1	Bangunan diperiksa	**Rmh**	27	19	35	26	27	30	30	30	26	24	36	27
	1.A1.1	a. Perimeter Area	Rmh	27	19	18	18	18	18	18	18	18	16	16	17
	1.A1.2	b. Buffer Area	Rmh	0	0	17	8	9	12	12	17	8	8	20	10
	1.A2	Cont. diperiksa	**Cont**												
	1.A2.1	a. Perimeter Area	Cont												
	1.A2.2	b. Buffer Area	Cont												
	1.A3	House Indek (HI):													
	1.A3.1	Perimeter	%	18.5	5.26	16.6	0	0	0	0	16.6	0	6.25	6.25	17.64
	1.A3.2	Buffer	%	0	0	0	0	0	0	8	0	0	0	20	10
	1.A4	Container Indek (CI):													
	1.A4.1	Perimeter	%												
	1.A4.2	Buffer	%												
	1.A5	Breteau Indek (BI)													
	1.A5.1	a. Perimeter Area	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.A5.2	b. Buffer Area	%	0	0	0	0	0	0	0	0	0	0	0	0
1.B	Nyamuk Anopheles														
	1.B1	Survei Larva: Dipper Indeks													
	1.B1.1	Perimeter	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.B1.2	Buffer	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.B2	Man Hour Density (MHD)													
	1.B2.1	Perimeter	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.B2.2	Buffer	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.B3	Man Bitting Rate (MBR)													
	1.B3.1	Perimeter	%												
	1.B3.2	Buffer	%												
1.C	Pemakaian Insektisida		Ltr												
1.D	Pemakaian Larvasida		Kg												
1.E	Tindakan Fogging		Ha												
2	**PEMBERANTASAN TIKUS PINJAL**														
2,A	Jumlah Pemasangan Perangkap x Freq di Bang		Prkp	400	632	400	432	432	432	400	400	432	381	432	480
2,B	Tikus tertangkap		Ekor	10	10	10	8	5	3	3	10	3	1	2	16
2,C	Pemasangan rat guard		Bh												
2,D	Index Pinjal		Ratio	4	1	0.3	0	0	0	0	3	0	0	0	0.43
2,E	Pemakaian Insektisida		Ltr/Kg												
2,F	Pemakaian Rodentisida		Kg												
3	**PENGENDALIAN LALAT**														
3,A	Tingkat kepadatan lalat		Ekor	0	0	0	0	0	0	0	0	0	0	0	0
3,B	Tindakan Penyemprotan		M2	15	15	20	20	15	5	10	15	15	20	0	15
3,C	Pemakaian Insektisida		Ltr/Kg	1.2	0.25	1	1	3	0.25	0.25	0.25	0.25	0.3	0	0.25
4	**PENGENDALIAN KECOA**														
4,A	Survei kehidupan kecoa		Ekor	0	12	0	0	0	0	1	0	54	137	28	5
4,B	Tindakan Penyemprotan		M2	0	0	0	0	0	0	0	0	0	0	0	0
4,C	Pemakaian Insektisida		Ltr/Kg	0	0	0	0	0	0	0	0	0	0	0	0

2022

KEGIATAN			SATUAN	JAN	FEB	MART	APRL	MEI	JUN	JULI	AGUST	SEPT	OKT	NOV	DES
1	**PENGAMATAN DAN PEMBERANTASAN NYAMUK**														
1.A	Nyamuk Aede Aegypti														
	1.A1	Bangunan diperiksa	**Rmh**	22	28	31	42	23	29.5	28	35	25	45	27	27
	1.A1.1	a. Perimeter Area	Rmh	17	23	25	23	18	19	21	23	25	28	15	12
	1.A1.2	b. Buffer Area	Rmh	5	5	6	19	5	10.5	7	12	0	17	12	15
	1.A2	Cont. diperiksa	**Cont**	95	181	169	204	115	104	126	219	378	478	216	383
	1.A2.1	a. Perimeter Area	Cont	89	163	169	163	99	104	106	152	378	389	154	307
	1.A2.2	b. Buffer Area	Cont	6	18	0	41	16	0	20	67	0	89	62	76
	1.A3	House Indek (HI):													
	1.A3.1	Perimeter	%	11.7	8.6	28	8.6	0.16	19	23	0	4	0	0	33.3
	1.A3.2	Buffer	%	0	20	0	10.5	0	0	0	0	0	0	0	0
	1.A4	Container Indek (CI):													
	1.A4.1	Perimeter	%	5	13	7.1	1.32	0.2	41	203	0	0.5	0	0	0.65
	1.A4.2	Buffer	%	0	5.5	0	4.8	0	0	3	0	0	0	0	0
	1.A5	Breteau Indek (BI)													
	1.A5.1	a. Perimeter Area	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.A5.2	b. Buffer Area	%	0	0	0	0	0	0	0	0	0	0	0	0
1.B	Nyamuk Anopheles														
	1.B1	Survei Larva: Dipper Indeks													
	1.B1.1	Perimeter	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.B1.2	Buffer	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.B2	Man Hour Density (MHD)													
	1.B2.1	Perimeter	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.B2.2	Buffer	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.B3	Man Bitting Rate (MBR)													
	1.B3.1	Perimeter	%	0	0	0	0	0	0	0	0	0	0	0	0
	1.B3.2	Buffer	%	0	0	0	0	0	0	0	0	0	0	0	0
1.C	Pemakaian Insektisida		Ltr	0	0	0	0	0	0	0	0	0	0	0	0
1.D	Pemakaian Larvasida		Kg	0	0	0	0	0	0	0	0	0	0	0	0
1.E	Tindakan Fogging		Ha	0	0	0	0	0	0	0	0	0	0	0	0
2	**PEMBERANTASAN TIKUS PINJAL**														
2,A	Jumlah Pemasangan Perangkap x Freq di Bang		Prkp	400	134	260	200	120	0	132	400	0	400	400	100
2,B	Tikus tertangkap		Ekor	0	3	8	0	0	0	2	14	0	1	1	3
2,C	Pemasangan rat guard		Bh	0	0	0	0	0	0	0	0	0	0	0	0
2,D	Index Pinjal		Ratio	0	0	2	0	0	0	0	0	0	0	0	0
2,E	Pemakaian Insektisida		Ltr/Kg	0	0	0	0	0	0	0	0	0	0	0	0
2,F	Pemakaian Rodentisida		Kg	0	0	0	0	0	0	0	0	0	0	0	0
3	**PENGENDALIAN LALAT**														
3,A	Tingkat kepadatan lalat		Ekor	5	23	5	4	4	7	8	7	5	7	6	5
3,B	Tindakan Penyemprotan		M2	0	25	0	15	0	15	25	25	25	25	25	25
3,C	Pemakaian Insektisida		Ltr/Kg	0	0.2	0	0	0	0	3	3	3	3	3	3
4	**PENGENDALIAN KECOA**														
4,A	Survei kehidupan kecoa		Ekor	29	0	0	0	0	0	0	0	0	0	0	0
4,B	Tindakan Penyemprotan		M2	0	0	0	0	0	0	0	0	0	0	0	0
4,C	Pemakaian Insektisida		Ltr/Kg	0	0	0	0	0	0	0	0	0	0	0	0