DAFTAR PUSTAKA

Abdisa T. 2018. Review on the reproductive health problem of dairy cattle. Dairy and Vet Sci J. 5(1):555655.

Aiello SE, Mays A (Eds): The Merck Veterinary Manual. 11th edition. Whitehouse station, NJ, USA: Merck & CO., Inc; 2016.

Akena, Walter. *Prevalence of brucellosis and risk factors among cattle in Kalongo town council, Agago district*. Diss. Busitema University, 2022.

Amaliah F, Djatmikowati TF, Siswani, Rahman A. 2022. Seroprevalensi *Brucellosis* di Kabupaten Polewali Mandar Provinsi Sulawesi Barat Tahun 2022. Buletin Diagnosa Veteriner. Balai Besar Veteriner Maros. Vol. 21 No.1. Tahun 2022.

Anis S. 2012. Laporan Kegiatan surveilans Brucellosis Wilayah Kerja Balai Besar Veteriner Maros. Kementrian Pertanian.

Anka M.S., Hassan L., Khairani-Bejo S., Zainal M.A., Mohamad R.B., Salleh A. & Adzhar A. (2014) A Casecontrol study of risk factors for bovine brucellosis seropositivity in peninsular Malaysia. Public Library of Science 9, e108673.

Ardiyanto, David. *Pendekatan Molekuler Kejadian Brucellosis Pada Sapi Potong Di Jawa Tengah*. 2020. PhD Thesis. Universitas Gadjah Mada.

Arif S., Thomson P.C., Hernandez-Jover M., McGill D.M., Warriach H.M. & Heller J. (2017). Knowledge, attitudes and practices (KAP) relating to brucellosis in smallholder dairy farmers in two provinces in Pakistan. PLoS ONE 12, e0173365.

Arif, S., Thomson, P. C., Hernandez-Jover, M., McGill, D. M., Warriach, H. M., Hayat, K., & Heller, J. (2019). Bovine brucellosis in Pakistan; an analysis of engagement with risk factors in smallholder farmer settings. *Veterinary Medicine and Science*, *5*(3), 390-401.

Asakura, S.; Makingi, G.; Kazwala, R.; Makita, K. Herd-level risk factors associated with *Brucella* seropositivity in cattle, and perception and behaviours on the disease control among agro-pastoralists in Tanzania. Acta Trop. 2018, 187, 99–107.

Ashagrie T, Deneke Y, Tolosa T. Seroprevalence of caprine brucellosis and associated risk factors in South Omo Zone of Southern Ethiopia. *Afr J Microbiol Res*. 2011;5:1682–1685.

Asmare K, Sibhat B, Molla W, *et al*. The status of bovine brucellosis in Ethiopia with special emphasis on exotic and cross bred cattle in dairy and breeding farms. Acta Trop. 2013 Jun;126(3):186–192.

Assenga, J.A.; Matemba, L.E.; Malakalinga, J.J.; Muller, S.K.; Kazwala, R.R. Quantitative analysis of risk factors associated with brucellosis in livestock in the Katavi-Rukwa ecosystem, Tanzania. Trop. Anim.Health Prod. 2016, 48, 303–309.

Aulakh HK, Patil PK, Sharma S, *et al*. A study on the epidemiology of bovine brucellosis in Punjab (India) using milk-ELISA. Acta Vet Brno. 2008;77 (3):393–399.

Aune K., Rhyan J.C., Russell R., Roffe T.J. & Corso B. (2012) Environmental persistence of *Brucella* abortus in the Greater Yellowstone Area. Journal of Wildlife Management 76, 253–261.

Avila-Granados, Lisa M., *et al*. "Brucellosis in Colombia: Current status and challenges in the control of an endemic disease." *Frontiers in veterinary science* 6 (2019): 321.

Azzahrawani, N., Martalina, E., Herman, S., & Adillah, A. (2018). AEVI-2 Investigasi Outbreak Bovine Bruselosis di Pulau Bengkalis Tahun 2018. *Hemera Zoa*.

Badan Pusat Statistik. 2021. Kabupaten Polewali Mandar Dalam Angka 2021. https://polewalimandarkab.bps.go.id. Diakses pada tanggal 20 Pebruari 2022, pukul 20.22 WITA.

Bahaman, Abdul Rani, P. G. Joseph, and B. Siti-Khairani. "A Review of the Epidemiology and Control of Brucellosis in Malaysia." *Jurnal Veterinar Malaysia* 19.1 (2007): 1-6.

Basri, C., and B. Sumiarto. "The estimation of economic losses caused by brucellosis in livestock population in Indonesia." *Jurnal Veteriner* 18.4 (2017): 547-556.

Blasco, José M., and Baldomero Molina-Flores. "Control and eradication of *Brucella* melitensis infection in sheep and goats." *Veterinary Clinics: Food Animal Practice* 27.1 (2011): 95-104.

Borba MR, Stevenson MA, Goncalves VS, *et al*. Prevalence and risk mapping of bovine brucellosis in Maranhao State, Brazil. *Prev Vet Med*. 2013;110:169–176. doi:10.1016/j.prevetmed.2012.11.013

CDC. Bioterrorism Agents/Diseases: The United States Centers for Disease Control and Prevention; 2018 [updated April 4, 2018. Available from: https://emergency.cdc.gov/agent/agentlist-category.asp.

Chand P, Chhabra R. Herd and individual animal prevalence of bovine brucellosis with associated risk factors on dairy farms in Haryana and Punjab in India. Trop Anim Health Prod. 2013 Aug;45 (6):1313–1319.

Chatikobo, P.; Manzi, M.; Kagarama, J.; Rwemarika, J.; Umunezero, O. Benchmark study on husbandry factors a_ecting reproductive performance of smallholder dairy cows in the Eastern Province of Rwanda.Livest. Res. Rural Dev. 2009, 21, 1–9.

Claudia AC, Diez JG, Coelho AM. Risk factors for *Brucella* spp. in domestic and wild animals. INTECH, World's largest Science, Technology and Medicine Open Access book publisher; 2015:1–18.

Dadar M, Shahali Y, Fakhri Y. Brucellosis in Iranian livestock: A meta-epidemiological study. Microb Pathog. 2021 Jun;155:104921. doi: 10.1016/j.micpath.2021.104921. Epub 2021 Apr 27.PMID: 33930414

de Macedo AA, Galv~ao NR, S_a JC, de Carvalho da Silva AP, da Silva Mol JP, Dos Santos LS, Santos RL, de Carvalho Neta AV. 2019. *Brucella*-associated cervical bursitis in cattle. Trop Anim Health Prod. 51(3):697–702.

Deb Nath, N., Ahmed, S. S. U., Malakar, V., Hussain, T., Chandra Deb, L., & Paul, S. (2023). Sero-prevalence and risk factors associated with brucellosis in dairy cattle of Sylhet Distric, Bangladesh: A cross-sectional study. *Veterinary Medicine and Science*.

Degefa, Teferi, Asmamaw Duressa, and Reta Duguma. "Brucellosis and some reproductive problems of indigenous Arsi cattle in selected Arsi zones of Oromia regional state, Ethiopia." *Global Veterinaria* 7.1 (2011): 45-53.

Deka, R. P., Magnusson, U., Grace, D., & Lindahl, J. (2018). Bovine brucellosis: prevalence, risk factors, economic cost and control options with particular reference to India-a review. *Infection Ecology & Epidemiology*, *8*(1), 1556548.

Deka, R. P., Shome, R., Dohoo, I., Magnusson, U., Randolph, D. G., & Lindahl, J. F. (2021) Seroprevalence and risk factors of *Brucella* infection in dairy animals in urban and rural areas of Bihar and Assam, India. *Microorganisms*, *9*(4), 783.

Direktorat Jenderal Peternakan dan Kesehatan Hewan (DIRKESWAN). 2015. Road Map Pengendalian dan Penanggulangan Brucellosis. Direktorat Jenderal Peternakan dan Kesehatan Hewan. Kementrian Pertanian Republik Indonesia. Jakarta

Djangwani, J., Ooko Abong', G., Gicuku Njue, L., & Kaindi, D. W. (2021). Brucellosis: Prevalence with reference to East African community countries–A rapid review. *Veterinary Medicine and Science*, *7*(3), 851-867.

Djatmikowati TF, Muflihanah, Siswani, Abidurrohman.2021. Seroprevalensi *Brucellosis* di Kabupaten Polewali Mandar Provinsi

Sulawesi Barat Tahun 2021. Buletin Diagnosa Veteriner. Balai Besar Veteriner Maros. Vol.20 No.20. Tahun 2021.

Djatmikowati, Titis Furi. "Seroprevalensi Brusellosis: Status Awal Pemberatasan Brusellosis dengan Pendekatan Zoning di Kabupaten Pinrang Propinsi Sulawesi Selatan." (2021).

Etefa, M., Kabeta, T., Merga, D., & Debelo, M. (2022). Cross-Sectional Study of Seroprevalence and Associated Risk Factors of Bovine Brucellosis in Selected Districts of Jimma Zone, South Western Oromia, Ethiopia. *BioMed Research International*, *2022*.

Fero E, Juma A, Koni A, Boci J, Kirandjiski T, Connor R, Wareth G, Koleci X. The seroprevalence of brucellosis and molecular characterization of Brucella species circulating in the beef cattle herds in Albania. PLoS One. 2020 Mar 5;15(3):e0229741. doi: 10.1371/journal.pone.0229741. eCollection 2020.PMID: 32134953

Fitria, Nisa Nurul, Herwin Pisestyani, and Ardilasunu Wicaksono. "Kejadian Bruselosis Pada Sapi Potong dan Pemetaan Wilayah Berisiko di Kabupaten Barru Provinsi Sulawesi Selatan Tahun 2015-2017." *Jurnal Kajian Veteriner* 8.2 (2020): 111-120.

Folitse RD, Boi-Kikimoto BB, Emikpe BO, Atawalna J. The prevalence of Bovine tuberculosis and Brucellosis in cattle from selected herds in Dormaa and Kintampo Districts, Brong Ahafo region, Ghana. *Clin Microbiol*. 2014;5(2):1–5.29

Getahun, T. K., Urge, B., & Mamo, G. (2022). Seroprevalence of human brucellosis in selected sites of Central Oromia, Ethiopia. *PLoS One*, *17*(12), e0269929.

Getahun, T., Urge, B., & Mamo, G. (2023). Seroprevalence of Bovine Brucellosis in Selected Sites of Central Highland of Ethiopia. *Veterinary Medicine: Research and Reports*, 11-22.

Gul ST, Khan A. Epidemiology and epizootology of brucellosis: a review. *Pak Vet J*. 2007; 27:145–151.35.

Hadi, Sulaxono, and Ratna Loventa Sulaxono. "Kondisi Brucellosis setelah Vaksinasi di Kecamatan Majauleng Kabupaten Wajo Sulawesi Selatan." *Prosiding Seminar Nasional Pembangunan dan Pendidikan Vokasi Pertanian*. Vol. 2. No. 1. 2021.

Hailemichael, Yohannes, Fufa Abunna, Buruk ushula. 2020. Seroprevalence of Bovine Brucellosis under Extensive Production System in Wolaita Zone, Southern Ethiopia. Journal of American Science 2020;16(10) http://www.jofamericanscience.org JAS

i-ISIKHNAS. 2015. Disease Investigation. https://wiki.isikhnas.com/w/DiseaseInvestigation:Course_Manual/id Downloaded on Pebruari 20 2023.

Kabi, F.; Muwanika, V.; Masembe, C. Spatial distribution of *Brucella* antibodies with reference to indigenous cattle populations among contrasting agro-ecological zones of Uganda. Prev. Vet. Med. 2015, 121, 56–63.

Kamga RMN, Silatsa BA, Farikou O, Kuiate JR, Simo G. Detection of *Brucella* antibodies in domestic animals of southern Cameroon: Implications for the control of brucellosis. Vet Med Sci. 2020 Aug;6(3):410-420. doi: 10.1002/vms3.264. Epub 2020 Apr 3.

Karimuribo E. D., H. A. Ngowi, E. S. Swai, and D. M. Kambarage, "Prevalence of brucellosis in crossbred and indigenous cattle in Tanzania," *Lrrd*, vol. 19, no. 10, pp. 148–152, 2007.

Kementerian Pertanian R.I., 2012, Pedoman Umum Pengendalian dan Penanggulangan*Brucellosis* di Indonesia

Khan MR, Rehman A, Khalid S, Ahmad MUD, Avais M, Sarwar M, Awan FN, Melzer F, Neubauer H, Jamil T. Seroprevalence and Associated Risk Factors of BovineBrucellosis in District Gujranwala, Punjab, Pakistan. Animals (Basel). 2021 Jun 11;11(6):1744. doi: 10.3390/ani11061744. PMID: 34208005; PMCID: PMC8230616.

Kiros A, Asgedom H, Abdi RD. 2016. A review on bovine brucellosis: epidemiology, diagnosis and control options. ARC J Anim Vet Sci. 2(3):8–21.

Kollannur, J. D., R. Rathore, and R. S. Chauhan. "Epidemiology and economics of brucellosis in animals and its zoonotic significance." *Proceedings of XIII International Congress in Animal Hygiene. International Society for Animal Hygiene*. 2007.

Kristiyanti, Felisitasn, and U. I. Apriliana. "AEVI-13 Investigasi Outbreak Bovine Brucellosis di Desa Hargobinangun Kecamatan Pakem Kabupaten Sleman Tahun 2017." *Hemera Zoa* (2018).

Kumar A, Gupta VK, Verma AK, *et al*. Seroprevalence and risk factors associated with bovine brucellosis in Westerna Uttar Pradesh, India. Indian J Anim Sci. 2016;86(2):131–135.

Kurniawati U, Trisunuwati P, dan Sriwahyuningsih. Pengaruh vaksinasi brucellosis pada sapi Perah dengan berbagai paritas terhadap Efisiensi reproduksi. 2010. Jurnal Ilmu-ilmu Peternakan Indonesia. Vol 20 no 1: 38-47.

Lake, Petra R.M. Take, Dr. drh. Asmarani Kusumawati, MP. 2010. Kajian lintas seksional brucelosis pada sapi di Kabupaten Belu. Thesis.

Program Studi Sains Veteriner Program Pasca Sarjana Fakultas Kedokteran Hewan Universitas Gajah Mada. Yogyakarta.

Lindahl E., Sattorov N., Boqvist S., Sattori I. & Magnusson U. (2014) Seropositivity and risk factors for *Brucella* in dairy cows in urban and peri-urban small-scale farming in Tajikistan. Tropical Animal Health and Production 46, 563–569.

Lounes N, Melzer F, Sayour AE, Maamar HT, Rahal K, Benamrouche N, Lazri M, Bouyoucef A, Hendam A, Neubauer H, El-Adawy H. Identification, geographic distribution and risk factors of Brucella abortus and Brucella melitensis infection in cattle in Algeria . Vet Microbiol. 2021 Mar;254:109004. doi: 10.1016/j.vetmic.2021.109004. Epub 2021 Jan 29.PMID: 33571821.

Mai HM, Irons PC, Kabir J, Thompson PN. A large seroprevalence survey of brucellosis in cattle herds under diverse production systems in northern Nigeria. *BMC Vet Res*. 2012;8(1):1–14. doi:10.1186/1746-6148-8-144.

Mailles, A., *et al*. "Human brucellosis in France in the 21st century: Results from national surveillance 2004–2013." *Médecine et Maladies Infectieuses* 46.8 (2016): 411-418.

Makita K., Fevre E.M., Waiswa C., Eisler M.C., Thrusfield M. & Welburn S.C. (2011) Herd prevalence of bovine brucellosis and analysis of risk factors in cattle in urban and peri-urban areas of the Kampala economic zone, Uganda. BMC Veterinary Research 7, 60.

Manish, K., P. Chand, C. Rajesh, R. Teena, and K. Sunil. 2013. Brucellosis: an updated review of the disease. Indian Journal of Animal Sciences. 83(1):3-16.

Matope G., Bhebhe E., Muma J.B., Lund A. & Skjerve E. (2010) Risk factors for *Brucella* spp. infection in smallholder household herds. Epidemiology and Infection 139, 157–164.

Matope, G., Bhebhe, E., Muma, J. B., Oloya, J., Madekurozwa, R. L., Lund, A., & Skjerve, E. (2011). Seroprevalence of brucellosis and its associated risk factors in cattle from smallholder dairy farms in Zimbabwe. *Tropical animal health and production*, *43*,975-982.

Mengele, I. J., Shirima, G. M., Bwatota, S. F., Motto, S. K., Bronsvoort, B. M. D. C., Komwihangilo, D. M., ... & Hernandez-Castro, L. E. (2023). The Status and Risk Factors of Brucellosis in Smallholder Dairy Cattle in Selected Regions of Tanzania. *Veterinary Sciences*, *10*(2), 155.

Mfune, R.L., Mubanga, M. Silwamba, I. Sagamiko, F. Mudenda, S. Daka, V. Godfroid, J. Hangombe, B.M. Muma, J.B. Seroprevalence of

bovine brucellosis in selected districts of Zambia. Int. J. Environ. Res. Public Health 2021, 18, 1436.

Minda AG, Gobena A, Tesfu K, *et al*. Seropositivity and risk factors for *Brucella* in dairy cows in Asella and Bishoftu towns, Oromia Regional State, Ethiopia. *Afr J Microbiol Res*. 2016;10(7):203–213. doi:10.5897/AJMR2015.7707

Moreno E. The one hundred year journey of the genus *Brucella* (Meyer and Shaw 1920) FEMS Microbiol. Rev. 2020;45:fuaa045. doi: 10.1093/femsre/fuaa045.

Moreno, E. 2014. Retrospective and prospective perspectives on zoonotic Brucellosis. Frontiers in microbiology. 5: 1–18.

Muendo EN, Mbatha PM, Macharia J, Abdoel TH, Janszen PV, Pastoor R, Smits HL. Infection of cattle in Kenya with Brucella abortus biovar 3 and Brucella melitensis biovar 1 genotypes .Trop Anim Health Prod. 2012 Jan;44(1):17-20.

Muflihanah, H., Hatta, M., Rood, E., Scheelbeek, P., Abdoel, T. H., & Smits, H. L. (2013). Brucellosis seroprevalence in Bali cattle with reproductive failure in South Sulawesi and *Brucella* abortus biovar 1 genotypes in the Eastern Indonesian archipelago. *BMC Veterinary research*, *9*(1), 1-11.

Mugizi DR, Boqvist S, Nasinyama GW, *et al*.Prevalence of and factors associated with *Brucella* sero-positivity in cattle in urban and peri-urban Gulu and Soroti towns of Uganda. J Vet Med Sci. 2015 May;77(5):557–564.

Muma J. B., K. L. Samui, V. M. Siamudaala *et al*., "Prevalence of antibodies to *Brucella* spp. and individual risk factors of infection in traditional cattle, goats and sheep reared in livestock-wildlife interface areas of Zambia," *Tropical Animal Health and Production*, vol. 38, no. 3, pp. 195–206, 2006.

Naipospos, T.S.P. 2014. Analisis kebijakan progam pembebasan brucellosis di Indonesia. Blog Veteriner ku, blog yang didedikasikan untuk dunia kesehatan hewan indonesia. http://tatavetblog.blogspot.com/2014/02/implikasi-ekonomi-dan-epidemiologis.html

Ndazigaruye, G.; Mushonga, B.; Kandiwa, E.; Samkange, A.; Segwagwe, B.E. Prevalence and risk factors for brucellosis seropositivity in cattle in Nyagatare District, Eastern Province, Rwanda. J. South Afr. Vet. Assoc. 2018, 89, e1–e8.

Nina, P.M.; Leirs, H.; Mugisha, S.; Van Damme, P. Relative importance of wildlife and livestock transmission route of brucellosis in southwestern Uganda. Data Brief 2018, 19, 1080–1085.

Noor, S.M. 2013. *Epidemiologi dan Pengendalian Brucellosis pada Sapi Perah di Pulau Jawa.* Lokakarya Nasional Kesediaan IPTEK dalam pengendalian Penyakit Stratesgis pada ternak ruminansia besar. http://bbalitvet.litbang.deptan.go.id/ind/attachments/247_73.pdf.

Ntivuguruzwa, J. B., Kolo, F. B., Gashururu, R. S., Umurerwa, L., Byaruhanga, C., & Van Heerden, H. (2020). Seroprevalence and associated risk factors of bovine brucellosis at the wildlife-livestock human interface in Rwanda. *Microorganisms*, *8*(10), 1553.

OIE Terrestrial Manual. 2022. Chapter 3.1.4 Brucellosis (*Brucella* abortus, B. melitensis and B. suis). Retracted from https://www.woah.org/fileadmin/Home/eng/Health_standards/tahm/3.01.04_BRUCELLOSIS.pdf

OIE. 2020. Bovine Brucellosis. OIE Terrestrial Animal Health. http://www.oie.int/eng/normes/en_mcode.htm]

OIE. Manual of diagnostic tests and vaccines for terrestrial animals. *World Organisation for Animal Health*. 2009;2(14):5–35.8.

Omer M. K., E. Skjerve, Z. Woldehiwet, and G. Holstad, "Risk factors for *Brucella* spp. infection in dairy cattle farms in Asmara, State of Eritrea," *Preventive Veterinary Medicine*, vol. 46, no. 4, pp. 257–265, 2000.

Patel MD, Patel PR, Prajapati MG, *et al*. Prevalence and risk factor's analysis of bovine brucellosis in periurban areas under intensive system of production in Gujarat, India. Vet World. 2014;7(7):509–516.

Pathak AD, Dubal ZB, Karunakaran M, *et al*. Apparent seroprevalence, isolation and identification of risk factors for brucellosis among dairy cattle in Goa, India. Comp Immunol Microbiol Infect Dis.2016;47:1–6.

Perwitasari, Ratna. Prevalensi dan Faktor Penyebab Brucellosis Pada Sapi Potong Di Kabupaten Kupang. Diss. Universitas Gadjah Mada, 2010.

Prahesti, K. I., R. Malaka, and F. N. Yuliati. "Prevalence of *Brucella* abortus antibody in serum of Bali cattle in South Sulawesi." *IOP Conference Series: Earth and Environmental Science*. Vol. 492. No. 1. IOP Publishing, 2020.

Radostits OM, Gay CC, Hinchcliff KW, Constable PD. *Veterinary Medicine. A Text Book of Diseases of Cattle, Sheep, Pigs, Goats and Horses*. 10th ed. London: W.B. Saunders; 2007:963–985.

Reviriego FJ, Moreno MA, Dominguez L. Risk factors for brucellosis seroprevalence of sheep and goat flocks in Spain. *Prev Vet Med*. 2000;44:167–173. doi:10.1016/S01675877(00)00108-2.

Robi DT, Gelalcha BD, Deresa FB. Knowledge and perception of community about causes of cattle abortion and case-control study of brucellosis as cause of abortion in Jimma zone, Ethiopia . Vet Med Sci. 2021 Nov;7(6):2240-2249. doi: 10.1002/vms3.600. Epub 2021 Aug 14.PMID: 34390542

Robi DT, Gelalcha BD. Epidemiological investigation of brucellosis in breeding female cattle under the traditional production system of Jimma zone in Ethiopia. *Vet Animal Sci*. 2020;9:100117. doi:10.1016/j.vas.2020.10011725

Sagamiko, F.; Muma, J.; Karimuribo, E.; Mwanza, A.; Sindato, C.; Hang'ombe, B. Sero-prevalence of Bovine Brucellosis and associated risk factors in mbeya region, Southern highlands of Tanzania. Acta Trop. 2018, 178, 169–175.

Samkhan, Ikaratri R, Sriniyati, Parmini T dan Purnomo D.P. 2014. Survei Seroepidemiologi Brucellosis menuju pembebasan sapi di Pulau Madura dari Penyakit Brucellosis tahun 2014. Buletin Laboratorium Veteriner. Vol. 13. No. 4. Tahun 2014.

Segwagwe, B.E.; Samkange, A.; Mushonga, B.; Kandiwa, E.; Ndazigaruye, G. Prevalence and Risk Factors for Brucellosis Seropositivity in Cattle in Nyagatare District, Eastern Province, Rwanda. J. S. Afr. Vet. Assoc. 2018, 89, a1625.

Setianingrum, Ani, *et al*. "Seroprevalensi brucellosis dan tingkat gangguan reproduksi pada sapi perah di Kota Batu.*Jurnal Ilmu Peternakan Terapan* 4.1 (2020): 14-19.

Shirima, G.; Lyimo, B.; Kanuya, N.L. Re-emergence of Bovine Brucellosis in Smallholder Dairy Farms in Urban Settings of Tanzania. J. Appl. Life Sci. Int. 2018, 17, 1–7.

Shome R, Shankaranarayan B, Krithiga N, *et al*. Bovine brucellosis in organised farms of India-an assessment of diagnostic assays and risk factors. Adv Anim Vet Sci. 2014;2(10):557–564.

Singh B, Kostoulas P, Gill GPS, Dhand NK. Cost benefit analysis of intervention policies for prevention and control of brucellosis in India. 2018. PLoSNegl Trop Dis 12(5):e0006488. https://doi.org/10.1371/journal.pntd.0006488

Sulima M, Venkataraman KS. 2010. Economic losses due to *Brucella* melitensis infection in sheep and goats. *Tamilnadu J Vet Anim Sci* 6: 191-192.

Susanti E. 2013. Perhitungan Ekonomi Akibat Brucellosis pada Sapi di Daerah Risiko Tinggi Kabupaten Klaten. Downloaded on 5 October 2013. http://elysusanti-vet.blogspot.com/2013/05/contoh-analisa-ekonomi-akibat.html.

Swai, E.S.; Schoonman, L. The use of rose bengal plate test to asses cattle exposure to *Brucella* infection in traditional and smallholder dairy production systems of Tanga region of Tanzania. Vet. Med. Int. 2010, 2010, 837950.

Tagueha, A. D., D. F. Souhoka, and B. B. Leklioy. "Prevalensi Reaktor Brucellosis Pada Populasi Sapi di Kecamatan Letti, Kabupaten Maluku Barat Daya." *Jurnal Ilmiah Fillia Cendekia Vol* 5.2 (2020): 54.

Talukder BC, Samad MA, Rahman AK. Comparative evaluation of commercial serodiagnostic tests for the seroprevalence study of brucellosis in stray dogs in Bangladesh. *Bangladesh J Vet Med*. 2012;9:79–83. https://doi.org/.3329/bjvm.v9i1.11217

Terefe, Y.; Girma, S.; Mekonnen, N.; Asrade, B. Brucellosis and associated risk factors in dairy cattle of eastern Ethiopia. Trop.Anim. Health Prod. 2017, 49, 599–606.

Tiwari, H. K., Proch, V., Singh, B. B., Schemann, K., Ward, M., Singh, J., & Dhand, N. K. (2022). Brucellosis in India: comparing exposure amongst veterinarians, para-veterinarians and animal handlers. *One Health*, *14*, 100367.

Tulu, Dereje. "Bovine brucellosis: epidemiology, public health implications, and status of brucellosis in Ethiopia." *Veterinary Medicine: Research and Reports* (2022): 21-30.

Warioba, J. P., Karimuribo, E. D., Komba, E. V., Kabululu, M. L., Minga, G. A., & Nonga, H. E. (2023). Occurrence and Risk Factors of Brucellosis in Commercial Cattle Farms from Selected Districts of the Eastern Coast Zone, Tanzania. *Veterinary Medicine International*, *2023*.

Yanti, Y., Sumiarto B., Kusumastuti T.A., Panus A., Sodirun S. Seroprevalence and risk factors of brucellosis and the brucellosis model at the individual level of dairy cattle in the West Bandung District, Indonesia. Vet. World 2021, 14, 1–10.

Yudianingtyas, Dini Wahyu. "Distribusi Kejadian *Brucella* melitensis di Propinsi Sulawesi Selatan dan Sulawesi Barat Tahun 2017."

Zhang, Ning, et al. "Animal brucellosis control or eradication programs worldwide: a systematic review of experiences and lessons learned." *Preventive veterinary medicine* 160 (2018): 105-115.

LAMPIRAN

Lampiran 1. Dokumentasi Kegiatan Pengumpulan Data Kuesioner

Lampiran 2. Form Kuesioner

KUESIONER
PENELITIAN DAMPAK BRUCELOSIS TERHADAP PRODUKTIFITAS SAPI POTONG
DI KABUPATEN POLEWALI MANDAR
TAHUN 2022

Nama Enumerator	:	
Tanggal Pelaksanaan	:	

Lingkari dan isilah jawaban dengan benar

1. Kecamatan (Kec)	:	
2. Desa / Kel (Des)	:	
3. Dusun/Lingkungan (Dsn/Ling)	:	
4. Titik Koordinat	:	
5. Nama Responden (Resp)	:	
6. Umur Responden (Umr)	:	
7. Pendidikan Responden (Pendk)	:	1. Tidak tamat SD 2. SD 3. SMP 4. SMA 5. Perguruan Tinggi/Sarjana
8. Tempat Ketinggian (Tingg)	:	1. Dataran Rendah 2. Dataran Tinggi
9. Jumlah ternak yang dimiliki		
Total Sapi (Spi)	:	..... ekor ♂(0) : ..... ekor ♀(1).....ekor
< 6 Bln (ASpi)	:	..... ekor ♂(A0) : ..... ekor ♀(A1).....ekor
6 - 12 Bln (BSpi)	:	..... ekor ♂(B0) : ..... ekor ♀(B1).....ekor
> 1 Th (CSpi)	:	..... ekor ♂(C0) : ..... ekor ♀(C1).....ekor
≥ 3 (DSpi)	:	..... ekor ♂(D0) : ..... ekor ♀(D1) .....ekor
10. Ras Sapi (RSpi)	:	
11. Pola Pemeliharaan (Manage)	:	1. Ekstensif (Digembalakan terus) 2. Semi Intensif (Digembalakan pagi s.d sore, malam di kandangkan). 3. Intensif (Dikandangkan dan pakan dengan perlakuan)
12. Cara penggembalaan (Gemb)	:	1. Sendiri sendiri 0. Bercampur dgn peternak lain

13. Densitas penggembalaan tinggi, > 5 peternak dalam 500 m^2 (Desnak).	:	1. Ya 0. Tidak
14. Sumber air minum (air)	:	0. Sumur. 1. Mata air 2. Air Sungai. 3. Air Kolam.
15. Akses yang bebas dan terbuka ke peternakan lainnya (Akses)	:	1. Ya 0. Tidak
16. Kondisi Kandang sering dibersihkan atau tidak (Farmcon)	:	1. Ya 0. Tidak
17. Dilakukan desinfeksi dan pengamanan lingkungan (Desling) →rutin :	:	1. Ya 0. Tidak
18. Perkawinan ternak (Winak)	:	1. Alami 2. IB 3. Campuran
19. Rata rata jumlah perkawinan per kebuntingan / Service per Conseption (SC)	:	.....
20. Jarak waktu melahirkan sampai bunting kembali / Service Period (SP) :	:	.....
21. Pernah terjadi keguguran dalam 1 tahun terakhir (abortus)	:	1. Ya 2. Tidak
22. Keguguran pd kebuntingan (Gurting)	:	.....Bulan
23. Umur Induk yang mengalami keguguran	:	…….. Tahun
24. Kelahiran Anak (Birth)	:	1. Mati 2. Lemah dan mati di beberapa hari kemudian 3. Sehat
25. Ada lalu lintas ternak / pemasukan ternak baru dalam 1 tahun terakhir (Jika ya, asal darimana?)		1. Ya 2. Tidak
26. Apakah sudah pernah mendengar nama penyakit keguguran menular? Jika ya, dari mana		1. Ya 2. Tidak
27. Musim penyakit keguguran biasanya terjadi		1. Kemarau 2. Hujan

Lampiran 3. Analisis Data

1. HASIL CFT VS PENDIDIKAN PETERNAK

a. Tabulasi Silang

Pendidikan Peternak * Hasil CFT Crosstabulation					
			Hasil CFT		
			Positif	Negatif	Total
Pendidikan Peternak	Tidak Tamat SD-SMP	Count	64	21	85
		Expected Count	63.8	21.3	85.0
	SMA-Perguruan Tinggi	Count	11	4	15
		Expected Count	11.3	3.8	15.0
Total		Count	75	25	100
		Expected Count	75.0	25.0	100.0

b. Chi Square Test

Chi-Square Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.026[a]	1	.872		
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.026	1	.872		
Fisher's Exact Test				1.000	.549
Linear-by-Linear Association	.026	1	.872		
N of Valid Cases	100				
a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.75.					
b. Computed only for a 2x2 table					

c. Odd Ratio

Tests of Homogeneity of the Odds Ratio			
	Chi-Squared	df	Asymptotic Significance (2-sided)
Breslow-Day	.000	0	.
Tarone's	.000	0	.

Tests of Conditional Independence			
	Chi-Squared	df	Asymptotic Significance (2-sided)
Cochran's	.026	1	.872
Mantel-Haenszel	.026	1	.872

Under the conditional independence assumption, Cochran's statistic is asymptotically distributed as a 1 df chi-squared distribution, only if the number of strata is fixed, while the Mantel-Haenszel statistic is always asymptotically distributed as a 1 df chi-squared distribution. Note that the continuity correction is removed from the Mantel-Haenszel statistic when the sum of the differences between the observed and the expected is 0.

Mantel-Haenszel Common Odds Ratio Estimate			
Estimate			1.108
ln(Estimate)			.103
Standard Error of ln(Estimate)			.636
Asymptotic Significance (2-sided)			.872
Asymptotic 95% Confidence Interval	Common Odds Ratio	Lower Bound	.319
		Upper Bound	3.853
	ln(Common Odds Ratio)	Lower Bound	-1.143
		Upper Bound	1.349

The Mantel-Haenszel common odds ratio estimate is asymptotically normally distributed under the common odds ratio of 1.000 assumption. So is the natural log of the estimate.

2. HASIL CFT VS UMUR TERNAK

a. Tabulasi Silang

Umur Ternak * Hasil CFT Crosstabulation					
			Hasil CFT		
			Positif	Negatif	Total
Umur Ternak	Sapi Betina Umur 1-3 tahun	Count	23	15	38
		Expected Count	28.5	9.5	38.0
	Sapi Betina Umur >3 tahun	Count	52	10	62
		Expected Count	46.5	15.5	62.0
Total		Count	75	25	100
		Expected Count	75.0	25.0	100.0

b. Chi SquareTest

Chi-Square Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	6.848[a]	1	.009		
Continuity Correction[b]	5.659	1	.017		
Likelihood Ratio	6.701	1	.010		
Fisher's Exact Test				.016	.009
Linear-by-Linear Association	6.779	1	.009		
N of Valid Cases	100				
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 9.50.					
b. Computed only for a 2x2 table					

c. Odd Ratio

Tests of Homogeneity of the Odds Ratio			
	Chi-Squared	df	Asymptotic Significance (2-sided)
Breslow-Day	.000	0	.
Tarone's	.000	0	.

Tests of Conditional Independence			
	Chi-Squared	df	Asymptotic Significance (2-sided)
Cochran's	6.848	1	.009
Mantel-Haenszel	5.603	1	.018

Under the conditional independence assumption, Cochran's statistic is asymptotically distributed as a 1 df chi-squared distribution, only if the number of strata is fixed, while the Mantel-Haenszel statistic is always asymptotically distributed as a 1 df chi-squared distribution. Note that the continuity correction is removed from the Mantel-Haenszel statistic when the sum of the differences between the observed and the expected is 0.

Mantel-Haenszel Common Odds Ratio Estimate			
Estimate			.295
ln(Estimate)			-1.221
Standard Error of ln(Estimate)			.479
Asymptotic Significance (2-sided)			.011
Asymptotic 95% Confidence Interval	Common Odds Ratio	Lower Bound	.115
		Upper Bound	.754
	ln(Common Odds Ratio)	Lower Bound	-2.160
		Upper Bound	-.283

The Mantel-Haenszel common odds ratio estimate is asymptotically normally distributed under the common odds ratio of 1.000 assumption. So is the natural log of the estimate.

3. HASIL CFT VS RIWAYAT ABORTUS

a. Tabulasi Silang

Riwayat Abortus * Hasil CFT Crosstabulation					
			Hasil CFT		
			Positif	Negatif	Total
Riwayat Abortus	Ya	Count	65	8	73
		Expected Count	54.8	18.3	73.0
	Tidak	Count	10	17	27
		Expected Count	20.3	6.8	27.0
Total		Count	75	25	100
		Expected Count	75.0	25.0	100.0

b. Chi Square Test

Chi-Square Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	28.429[a]	1	.000		
Continuity Correction[b]	25.723	1	.000		
Likelihood Ratio	26.407	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	28.145	1	.000		
N of Valid Cases	100				
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.75.					
b. Computed only for a 2x2 table					

c. Odd Ratio

Tests of Homogeneity of the Odds Ratio			
	Chi-Squared	df	Asymptotic Significance (2-sided)
Breslow-Day	.000	0	.
Tarone's	.000	0	.

Tests of Conditional Independence			
	Chi-Squared	df	Asymptotic Significance (2-sided)
Cochran's	28.429	1	.000
Mantel-Haenszel	25.466	1	.000

Under the conditional independence assumption, Cochran's statistic is asymptotically distributed as a 1 df chi-squared distribution, only if the number of strata is fixed, while the Mantel-Haenszel statistic is always asymptotically distributed as a 1 df chi-squared distribution. Note that the continuity correction is removed from the Mantel-Haenszel statistic when the sum of the differences between the observed and the expected is 0.

Mantel-Haenszel Common Odds Ratio Estimate			
Estimate			13.813
ln(Estimate)			2.626
Standard Error of ln(Estimate)			.547
Asymptotic Significance (2-sided)			.000
Asymptotic 95% Confidence Interval	Common Odds Ratio	Lower Bound	4.728
		Upper Bound	40.353
	ln(Common Odds Ratio)	Lower Bound	1.553
		Upper Bound	3.698

The Mantel-Haenszel common odds ratio estimate is asymptotically normally distributed under the common odds ratio of 1.000 assumption. So is the natural log of the estimate.

4. HASIL CFT VS UMUR TERJADINYA ABORTUS

a. Tabulasi Silang

Umur Kebuntingan Terjadinya Abortus * Hasil CFT Crosstabulation					
			Hasil CFT		
			Positif	Negatif	Total
Umur Kebuntingan Terjadinya Abortus	Trimester 1	Count	8	1	9
		Expected Count	8.0	1.0	9.0
	Trimester 1-2	Count	57	7	64
		Expected Count	57.0	7.0	64.0
Total		Count	65	8	73
		Expected Count	65.0	8.0	73.0

b. Chi Square Test

Chi-Square Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.000[a]	1	.988		
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.000	1	.988		
Fisher's Exact Test				1.000	.671
Linear-by-Linear Association	.000	1	.988		
N of Valid Cases	73				
a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is .99.					
b. Computed only for a 2x2 table					

c. Odd Ratio

Tests of Homogeneity of the Odds Ratio			
	Chi-Squared	df	Asymptotic Significance (2-sided)
Breslow-Day	.000	0	.
Tarone's	.000	0	.

Tests of Conditional Independence			
	Chi-Squared	df	Asymptotic Significance (2-sided)
Cochran's	.000	1	.988
Mantel-Haenszel	.303	1	.582

Under the conditional independence assumption, Cochran's statistic is asymptotically distributed as a 1 df chi-squared distribution, only if the number of strata is fixed, while the Mantel-Haenszel statistic is always asymptotically distributed as a 1 df chi-squared distribution. Note that the continuity correction is removed from the Mantel-Haenszel statistic when the sum of the differences between the observed and the expected is 0.

Mantel-Haenszel Common Odds Ratio Estimate			
Estimate			.982
ln(Estimate)			-.018
Standard Error of ln(Estimate)			1.134
Asymptotic Significance (2-sided)			.988
Asymptotic 95% Confidence Interval	Common Odds Ratio	Lower Bound	.106
		Upper Bound	9.065
	ln(Common Odds Ratio)	Lower Bound	-2.240
		Upper Bound	2.204

The Mantel-Haenszel common odds ratio estimate is asymptotically normally distributed under the common odds ratio of 1.000 assumption. So is the natural log of the estimate.

5. HASIL CFT VS POLA PEMELIHARAAN

a. Tabulasi Silang

Pola Pemeliharaan * Hasil CFT Crosstabulation					
			Hasil CFT		
			Positif	Negatif	Total
Pola Pemeliharaan	Intensif	Count	4	1	5
		Expected Count	3.8	1.3	5.0
	Semi Ekstensif-Ekstensif	Count	71	24	95
		Expected Count	71.3	23.8	95.0
Total		Count	75	25	100
		Expected Count	75.0	25.0	100.0

b. Chi Square Test

Chi-Square Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.070[a]	1	.791		
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.074	1	.786		
Fisher's Exact Test				1.000	.633
Linear-by-Linear Association	.069	1	.792		
N of Valid Cases	100				
a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 1.25.					
b. Computed only for a 2x2 table					

Tests of Homogeneity of the Odds Ratio			
	Chi-Squared	df	Asymptotic Significance (2-sided)
Breslow-Day	.000	0	.
Tarone's	.000	0	.

Tests of Conditional Independence			
	Chi-Squared	df	Asymptotic Significance (2-sided)
Cochran's	.070	1	.791
Mantel-Haenszel	.069	1	.792

Under the conditional independence assumption, Cochran's statistic is asymptotically distributed as a 1 df chi-squared distribution, only if the number of strata is fixed, while the Mantel-Haenszel statistic is always asymptotically distributed as a 1 df chi-squared distribution. Note that the continuity correction is removed from the Mantel-Haenszel statistic when the sum of the differences between the observed and the expected is 0.

Mantel-Haenszel Common Odds Ratio Estimate			
Estimate			1.352
ln(Estimate)			.302
Standard Error of ln(Estimate)			1.143
Asymptotic Significance (2-sided)			.792
Asymptotic 95% Confidence Interval	Common Odds Ratio	Lower Bound	.144
		Upper Bound	12.696
	ln(Common Odds Ratio)	Lower Bound	-1.938
		Upper Bound	2.541

The Mantel-Haenszel common odds ratio estimate is asymptotically normally distributed under the common odds ratio of 1.000 assumption. So is the natural log of the estimate.

6. Musim Vs Hasil CFT

a. Tabulasi Silang

Musim * Hasil CFT Crosstabulation					
			Hasil CFT		
			Positif	Negatif	Total
Musim	Kemarau	Count	65	9	74
		Expected Count	55.5	18.5	74.0
	Hujan	Count	10	16	26
		Expected Count	19.5	6.5	26.0
Total		Count	75	25	100
		Expected Count	75.0	25.0	100.0

b. Chi Square Test

Chi-Square Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	25.017[a]	1	.000		
Continuity Correction[b]	22.453	1	.000		
Likelihood Ratio	23.039	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	24.767	1	.000		
N of Valid Cases	100				
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.50.					
b. Computed only for a 2x2 table					

c. Odd Ratio

Tests of Homogeneity of the Odds Ratio			
	Chi-Squared	df	Asymptotic Significance (2-sided)
Breslow-Day	.000	0	.
Tarone's	.000	0	.

Tests of Conditional Independence			
	Chi-Squared	df	Asymptotic Significance (2-sided)

Cochran's	25.017	1	.000
Mantel-Haenszel	22.229	1	.000

Under the conditional independence assumption, Cochran's statistic is asymptotically distributed as a 1 df chi-squared distribution, only if the number of strata is fixed, while the Mantel-Haenszel statistic is always asymptotically distributed as a 1 df chi-squared distribution. Note that the continuity correction is removed from the Mantel-Haenszel statistic when the sum of the differences between the observed and the expected is 0.

Mantel-Haenszel Common Odds Ratio Estimate

Estimate			11.556
ln(Estimate)			2.447
Standard Error of ln(Estimate)			.538
Asymptotic Significance (2-sided)			.000
Asymptotic 95% Confidence Interval	Common Odds Ratio	Lower Bound	4.029
		Upper Bound	33.142
	ln(Common Odds Ratio)	Lower Bound	1.394
		Upper Bound	3.501

The Mantel-Haenszel common odds ratio estimate is asymptotically normally distributed under the common odds ratio of 1.000 assumption. So is the natural log of the estimate.

RIWAYAT HIDUP

Penulis Isnaniah Bagenda, NIM I012202012, dilahirkan pada tanggal 15 Mei 1979, di Kalosi, Enrekang, Sulawesi Selatan. Anak kedua dari 4 bersaudara dari pasangan Ayahanda dan Ibunda tercinta Bapak Alm. Bagenda Liwangka, S.Pd. dan Ibu Hj. St. Ria. Menamatkan pendidikan Sekolah Dasar pada tahun 1991 di SDN No.18 Kalosi, Enrekang. Kemudian penulis melanjutkan pendidikan SLTP dan lulus pada tahun 1994 di SMP Neg Kalosi, Enrekang. Tahun 1997 penulis menamatkan pendidikan di SMU Negeri 01 Alla', Enrekang, Jurusan IPA. Pada tahun yang sama, Penulis melanjutkan pendidikan S1 pada Fakultas Kedokteran Hewan, Institut Pertanian Bogor melalui jalur USMI dan tahun 2002 dinyatakan lulus sebagai Sarjana Kedokteran Hewan. Tahun 2004 penulis menamatkan pendidikan pada Program Profesi Dokter Hewan di Institut Pertanian Bogor (IPB), dan berkesempatan bekerja pada PT. IPB Shigeta Animal Pharmaceutical pada tahun 2005. Tahun 2006, penulis kemudian mengabdi sebagai ASN pada Dinas Pertanian dan Peternakan Kabupaten Polewali Mandar, Sulawesi Barat dan melanjutkan Pendidikan Magister Ilmu dan Teknologi Peternakan di Universitas Hasanuddin Makassar, pada tahun 2020.