

DAFTAR PUSTAKA

- Aken'Ova, T.O. 2007. A Preliminary Report on a New Species of *Clarias scopoli*, 1777 in River Galma, Zaria, Nigeria. *Journal of Tropical Biosciences*. 7: 45-48.
- Alamanda, I.E, N.S. Handajani, dan A. Budiharjo. 2007. Penggunaan metode hematologi dan pengamatan endoparasit darah untuk penetapan kesehatan ikan lele dumbo (*Clarias gariepinus*) di kolam budidaya Desa Mangkubumen Boyolali. *Biodiversitas*. 8 (1) : 34-38.
- Anderson, D.P. 1992. Immunostimulants, adjuvants, and vaccine carriers in fish: Applications to aquaculture. *Annual Review Fish Diseases*. 2,281-307.
- Apriyandi, R. 2008. Perbandingan hematologi ikan baung (*Mystus nemurus* CV) yang dipelihara dalam kolam dan keramba. Skripsi. Fakultas Perikanan dan Ilmu Kelautan. Universitas Riau.
- Aquarista, F., Iskandar, dan U. Subhan. 2012. Pemberian Probiotik Dengan Carrier Zeolit pada Pembesaran Ikan Lele Dumbo (*Clarias gariepinus*). *Jurnal Perikanan dan Kelautan*. 3(4): 133-140.
- Baratawidjaja, K. G. 2002. *Imunologi Dasar*. Balai Penerbit FKUI. Jakarta.
- Boomker, J. 1981. The haemocytology and histology of the haemopoietic organs of south african freshwater fish. III. The leucocytes, plasma cells and macrophages of *Clarias gariepinus* and *Sarotherodon mossambicus*. *Onderstepoort Journal Veterinary*. 48:185-193
- Castro, R., I. Zarra, J. Lamas. 2003. Water-soluble seaweed extract modulate the respiratory burst activity of turbot phagocytes. *Aquaculture*. 229:67-68.
- Diaz-Rosales, P., I. Salinas, A. Rodriguez, A. Cuesta, M. Chabrillon, and M.C. Balebona. 2006. Gilthead Seabream (*Sparus aurata* L.) Innate Immune Response After Dietary Administration of Heat-inactivated Potential Probiotics. *Fish & Shellfish Immunology*. 20:482-492
- Erika, Y. 2008. Gambaran diferensiasi leukosit pada ikan mujair (*Oreochromis mossambica*) di Daerah Ciampea Bogor. (Skripsi). Institut Pertanian Bogor.
- Fischer, Uwe., K. Utke, T. Sornamoto, B. Köller, M. Ototake, and T. Nakanishi. 2006. Cytotoxic activities of fish leucocytes. *Fish & Shellfish Immunology*. 20: 209-226.
- Fujaya, Y. 2004. *Fisiologi ikan*. Rineka Cipta. Jakarta.
- Galagarza O.A., S.A. Smith, D.J. Drahos, J.D. Eifert, and R.C. Williams. 2018. Modulation of innate immunity in Nile tilapia (*Oreochromis niloticus*) by dietary supplementation of *Bacillus subtilis* endospores. *Fish & Shellfish Immunology*. 83: 171-179.
- Gómez, G.D. and J.L. Balázar. 2007. A review on the interactions between gut microbiota and innate immunity of fish. *Immunology Medicine Microbiology*. 52: 145–154.
- Handajani, H. dan S.D. Hastuti. 2002. *Budidaya Perairan*. UMM Press. Malang

- Hermawan, A.T., Iskandar, dan U. Subhan. 2012. Pengaruh Padat Tebar terhadap Kelangsungan Hidup Pertumbuhan Lele Dumbo (*Clarias gariepinus* Bruch.) di Kolam Kali Menir Indramayu. *Jurnal Perikanan Kelautan*. 3(3): 85-93.
- Hermawan, T.E.S.A., A. Sudaryono, S.B. Prayitno. 2014. Pengaruh Padat Tebar Terhadap Pertumbuhan dan Kelulushidupan Benih Lele (*Clarias gariepinus*) dalam Media Bioflok. *Journal of Aquaculture Management and Technology*. 3(3): 35-42.
- Hidayat, R., E. Harpeni, dan Wardiyanto. 2014. Profil Hematologi Kakap Putih (*Lates Calcallifer*) yang Distimulasi dengan Jintan Hitam (*Nigella Sativa*) dan Efektifitasnya Terhadap Infeksi *Vibrio Alginolyticus*. *Jurnal Rekayasa dan Teknologi Budidaya Perairan*. 3(1): 327-334.
- Irianto, A. 2005. Patologi ikan teleostei. Gadjah Mada University Press. Yogyakarta 256p
- Irianto, A., B. Austin. 2002 Use of probiotics to control furunculosis in rainbow trout, *Oncorhynchus mykiss* (Walbaum). *Journal Fish Disiases*. 333-342
- Isnansetyo, A. 2005. Bakteri Antagonis Sebagai Probiotik Untuk Pengendalian Hayati Pada Akuakultur. *Jurnal Perikanan*. VII(1): 1-10.
- Isnansetyo, A., A. Fikriyah, N. Kasanah, Murwantoko. 2016. Non-specific immune potentiating activity of fucoidan from a tropical brown algae (Phaeophyceae), *Sargassum cristaefolium* in tilapia (*Oreochromis niloticus*). *Aquaculture International*. 24:465-477
- Isnansetyo, A., H.M. Irpani, T.A. Wulansari, and N. Kasanah. 2014. Oral Administration of alginate from A Tropical Brown Seaweed, *Sargassum* sp. to Enhance Non-Spesific Defence in Walking Catfish (*Clarias* sp.). *Aquacultura Indonesiana*. 2:49-55.
- Iwama, G. and T. Nakanishi. 1996. The Fish Immune System: Organism, Pathogen, and Environment. Academic Press.
- Jain, N.C. 1993. Essentials of Veterinary Hematology. Lea and Febiger Publishing. Philadelphia. 417p.
- Khairuman, A. dan K. Amri. 2002. Budidaya Lele Lokal Secara Intensif. AgroMedia Pustaka. Jakarta.
- Kordi, M. G. H. 2010. Budidaya Ikan Lele di Kolam Terpal. Lily Publisher. Yogyakarta.
- Kuebutornye, F.K.A., E.D. Abarik, and L. Yishan. A review on The Application of *Bacillus* as Probiotics in Aquaculture. *Fish and Shellfish Immunology*. 87: 820-828.
- Lazado, C.C. and C.M.A. Caipang. 2014. Mucosal Immunity and Probiotics in Fish. *Fish & Shellfish Immunology*. 39: 78-89.
- Lazado, C.C., C.M.A. Caipang, and E.G. Estante. 2015. Prospects of Host-associated Microorganisms in Fish and Penaeids as Probiotics with Immunomodulatory Functions. *Fish & Shellfish Immunology*. 45: 2-12.

- Lin, T., X. Liu, D. Xiao, D. Zhang, Y. Cai, X. Zhu. 2019. *Lactobacillus* spp. as Probiotics for Prevention and Treatment of Enteritis in The Lined Seahorse (*Hippocampus Erectus*) Juveniles. *Aquaculture*. 503:16-25
- Lusiastuti, A.M., T. Sumiati., dan W. Hadie. 2013. Probiotik *Bacillus firmus* untuk Pengendalian Penyakit *Aeromonas hydrophila* pada Budidaya Ikan Lele Dumbo, *Clarias gariepinus*. *Jurnal Riset Akuakultur*. 8(2): 253-264.
- Madigan, M.T., J.M. Martinko, D.A. Stahl, D.P. Clark. 2011. *Brock Biology of Microorganisms*. Pearson Education. San Fransisco.
- Mahyuddin, K. 2008. *Panduan Lengkap Agribisnis Lele*. Penebar Swadaya. Jakarta.
- Nayak. S.K. 2010. Probiotics and Immunity: A Fish Perspective. *Fish & Shellfish Immunology*. 29: 2-14.
- Putra, S.E., E.S. Redjeki, dan S. Luthfiyah. 2018. Pengaruh Pemberian Dosis Probiotik yang Berbeda pada Pakan Komersil Terhadap Pertumbuhan Ikan Lele Dumbo (*Clarias gariepinus*) Pemeliharaan Padat Tebar Tinggi. *Perikanan Pantura (JPP)*. 1(2): 22-29.
- Rahmaningsih, S. 2018. *Hama & Penyakit Ikan*. Deepublish. Yogyakarta.
- Rauta, P.R., B. Nayak., S. Das. 2012. Immune System and Immune Responses in Fish and Their Role in Comparative Immunity Study: A Model for Higher Organisms. *Immunology Letters*. 148: 23-33.
- Saanin, S. 1989. *Taksonomi dan Kunci Identifikasi Ikan*. Binacipta, Bandung.
- Salasia, S.I.O., D. Sulanjari, dan A. Ratnawati. 2001. Studi Hematologi Ikan Air Tawar. *Jurnal Biologi*. 2:710-723.
- Secombes, C.J. 1996. The Nonspecific Immune System: Cellular Defenses. *The Fish Immune System*. *Fish Physiology*. Academic Press. San Diego. p. 63-103
- Secombes, J. and T. Wang. 2012. *Infectious Disease in Aquaculture, Prevention and Control: The Innate and Adaptive Immune System of Fish*. Woodhead Publishing. p 3-68.
- Sukendar, W., Widanarni, dan M. Setiawati. 2016. Respons imun dan kinerja pertumbuhan ikan lele, *Clarias gariepinus* (Burchell 1822) pada budi daya sistem bioflok dengan sumber karbon berbeda serta diinfeksi *Aeromonas hydrophila*. *Jurnal Iktiologi Indonesia*. 16(3): 309-323.
- Sun, Y., M. He, Z. Cao, Z. Xie, C. Liu, S. Wang, and Y. Zhou. 2018. Effects of Dietary Administration of *Lactococcus lactis* HNL12 on Growth, Innate Immune Response, and Disease Resistance of Humpback gGouper (*Cromileptes altivelis*). *Fish & shellfish immunology*, 82, 296-303.
- Suyanto, S. R. 2008. *Budidaya Ikan Lele*. Penebar Swadaya.
- Taoka, Y., H. Maeda, J.Y. Jo, S.M. Kim, S. Park, and T. Yoshikawa. 2006. Use of Live and Dead Probiotic Cells in Tilapia *Oreochromis niloticus*. *Fisheries Science*. 72:755-66.

- Tizard I. 1982. Veterinary immunology, An introduction. Ed Ke-3. W.B. Saunders Company. Canada.
- Tort, L., J. C. Balasch, S. Mackenzie. Fish Immune System. A Crossroads Between Innate and Adaptive Responses. *Immunología*. 22(3): 277-286.
- Ulkhag, M.F., Widanarni, and M.L. Angela. 2014. Application of *Bacillus* probiotics for the prevention of *Aeromonas hydrophila* Infection in Catfish. *Indonesian Aquaculture Journal*. 13(2): 105-114.
- Utami, D.T., S.B. Prayitno, S. Hastuti, dan A. Santika. 2013. Gambaran parameter hematologis pada Ikan Nila (*Oreochromis niloticus*) yang diberi vaksin DNA *Streptococcus iniae* dengan dosis yang berbeda. *Microbiology Indonesia*. 2(4): 7-20.
- Verma, V.K., K.V. Rani, N. Sehgal, and O. Prakash. 2013. Immunostimulatory effect of artificial feed supplemented with indigenous plants on *Clarias gariepinus* against *Aeromonas hydrophila*. *Fish & Shellfish Immunology*. 35: 1924-1931.
- Wardika, A. S., Suminto, A. Sudaryono. 2014. Pengaruh Bakteri Probiotik pada Pakan dengan Dosis Berbeda Terhadap Efisiensi Pemanfaatan Pakan, Pertumbuhan dan Kelulushidupan Lele Dumbo (*Clarias gariepinus*). *Journal of Aquaculture Management and Technology*. 3(4): 9-17.
- Watanuki, H., G. Chakraborty, H. Korenaga, T. Kono, R.B. Shivappa, and M. Sakai. 2009. Immunostimulatory Effects of Natural Human Interferon-alpha (huIFN-a) on carps *Cyprinus carpio* L. *Vet Immunol Immunopathol*. 131:273-277
- Zhou, X., Z. Tian, Y. Wang, and W. Li. 2010. Effect of Treatment with Probiotics as Water Additives on Tilapia (*Oreochromis niloticus*) Growth Performance and Immune Response. *Fish Physiol. Biochem*. 36(3): 501-509.
- Zorriehzahra, M.J., S.T. Delshad, M. Adel, R. Tiwari, K. Karthik, K. Dhama, and C.C. Lazado. 2016. Probiotics as Beneficial Microbes in Aquaculture: an Update on Their Multiple Modes of Action: A Review. *Veterinary Quarterly*. 36(4): 228-241.