

DAFTAR PUSTAKA

- Abbasi, H., Jamil, M., Haq, A., Ali, S., Ahmad, R., Malik, Z and Parveen. 2016. Salt Stress Manifestation on Plants, Mechanism of Salt Tolerance and Potassium Role in Alleviating It. *Zemdirbyste-Agriculture*, 103 (2): 229-238
- Acosta-Motos, J. R., M. F. Ortuño, A. Bernal-Vicente, P. Diaz-Vivancos, M. J. Sanchez-Blanco, J. A. Hernandez. 2017. Plant Responses to Salt Stress: Adaptive Mechanisms. *Agronomy*. 7 (18): 3 – 37.
- Agarwal, S., R. K. Siram, G. C. Srivastava, A. Tayagi & R. C. Meena. 2005. Changes in Antioxidant Enzymes Activity and Oxidatives Stress by Absciscic Acid and Salicylic Acid in Wheat Genotypes. *Biologia Plantarum*. 49 (4): 541 – 550.
- Ahmad, S. T. & R. Haddad. 2011. Study of Silicon Effects on Antioxidant Enzyme Activities and Osmotic Adjustment of Wheat Under Drought Stress. *Czech Journal Genetic Plant Breeding*. 47 (1): 17 – 27.
- Ahmad, I., T. Khaliq, A. Ahmad, S. M. A. Basra, Z. hasnain & A. Ali. 2012. Effect of Seed Priming With Ascorbic Acid, Salicylic Acid and Hydrogen Peroxide on Emergence, Vigor and Antioxidant Activities of Maize. *African Journal of Biotechnology*. 11 (5): 1127 – 1132.
- Ali, A. A. & F. Alqurainy. 2006. Activities of Antioxidant in Plants Under Environmental Stres dalam Motohashi, N (editor) *The Lutein-Prevention and Treatment for Disease*. Transworld Research Network, India. pp 187 – 256.
- Almodares, A., M. R. Hadi & B. Dosti. 2008. The Effects of Salt Stress on Growth Parameters and Carbohydrates Contents in Sweet Sorghum. *Research Journal of Environmental Sciences*. 2 (4): 298 – 304.
- Amirjani, M. R. 2011. Effect of Salinity Stress on Growth, Sugar Content, Pigments and Enzyme Activity of Rice. *International Journal of Botany*. 7 (1): 73 – 81.
- Anderson, M. D., T . K. Prasad & C. R. Steward. 1995. Changes in Isoenzyme Profiles of Catalase, Peroxidase and Glutathione Reductase During Acclimatization to Chilling in Mesocotyls of Maize Seedlings. *Plant Physiology*. 109 (4): 1247 – 1257.
- Apel, K & H. Hirt. 2004. Reactive Oxygen Species: Metabolism, Oxidative Stress and Signal Transduction. *Annual Review Plant Biology*. 55 (1): 373 – 399.
- Asmaa, R.A.E., M. A. Ahmed, M. G. E. Karima, A. F. S. Magda & M. H. E. Hoda. 2017. Role of Salicylic Acid to Improve Physiological Characters and Bio-Chemical Markers of Soybean (*Glycin max* L.) Under Sea Salt Stress. *International Journal of Environment Research*. 11 (4): 547 – 556.
- Asana, R.D. 1968. In quest of Yield. *Indian Journal of Plant Physiology*. 11: 1 – 10.
- Ashraf, M & Q. Ali. 2008. Relative Membrane Permeability and Activities of Some Antioxidant Enzymes as the Key Determinants of Salt Tolerance in Canola (*Brassica napus* L.). *Environmental and Experimental Botany*. 63: 266 – 273.

- Ashraf, M., N. A. Akram, R. N. Arteca & M. R. Foolad. 2010. The Physiological, Biochemical and Molecular Roles of Brassinosteroids and Salicylic Acid in Plant Processes and Salt Tolerance. *Critical Review Plant Science*. 29 (3): 162 – 190.
- Atkinson, N. J. & P. E. Urwin. 2012. The Interaction of Plant Biotic and Abiotic Stresses: From Genes to the Field. *Experimental Botany*. 63 (10): 3523 – 3543.
- Bandurska, H. 2013. “Salicylic Acid: An Update on Biosynthesis and Action in Plant Response to Water Deficit and Performance Under Drought” dalam Hayat, S., A. Ahmad, M. N. Alyemeni (Editor). *Salicylic Acid Plant Growth and Development*. Springer: London. pp. 1 – 25.
- Bandurska, H. & A. Stroiski. 2005. The Effect of Salicylic Acid on Barley Response to Water Deficit. *Acta Physiologiae Plantarum*. 27 (3): 379 – 386.
- Bhattacharjee, S. 2011. The Language of Reactive Oxygen Species Signaling in Plant. *J. Botany*. 2012 : 1 – 22.
- Bonnemain, J. L., J. -F. Chollet & F. Rocher. 2013. “Transport of Salicylic Acid and Related Compounds” dalam Hayat, S., A. Ahmad, M. N. Alyemeni (Editor). *Salicylic Acid Plant Growth and Development*. Springer. London. pp. 43 – 56.
- Borzouei, A., M. Kafi, E. Akbari-Ghodgi & M. A. Mousavi-Shalmani. 2012. Long Term Salinity Stress in Relation to Lipid Peroxidation, Superoxide Dismutase Activity and Proline Content of Salt Sensitive and Salt-Tolerant Wheat Cultivars. *Chilean Journal of Agricultural Research*. 72 (4): 476 – 482.
- Boudsocq, M. & C. Laurière. 2005. Osmotic Signaling in Plants Multiple Pathways Mediated by Emerging Kinase Families. *Plant Physiology*. 138 (3): 1185 – 1194.
- Cabot, C., J. V. Sibole III, J. Barcelo & C. Poschenrieder. 2009. Abscissic Acid Decreases Leaf Na⁺ Exclusion in Salt-Treated *Phaseolus vulgaris* L. *Journal of Plant Growth Regulation*. 28: 187 – 192.
- Cao, Y., Z. Zhang, L. Xue, J. Du, J. Shang, F. Xu, S. Yuan & H. Lin. 2009. Lack of Salicylic Acid in *Arabidopsis thaliana* Protects Plants Against Moderate Salt Stress. *Zeitschrift fur Naturforschung C*. 64 (3-4): 231 – 238.
- Céccoli, G., J. C. Ramos, L. I. Ortega, J. M. Acosta & M. G. Perreta. Salinity Induced Anatomical and Morphological Changes in *Chloris gayana* Kunth Roots. *Journal of Plant Growth Regulation*. 35 (1): 9 -17.
- Chen, Z. X., H. Silva & D. F. Klessig. 1993. Active Oxygen Species in the Induction of Plant Systematic Acquired Resistance by Salicylic Acid. *Science*. 262 (5141): 1883 – 1886.
- Chen, Z., Z. Zheng, J. Huang, Z. Lai & B. Fan. 2009. Biosynthesis of Salicylic Acid in Plants. *Plant Signaling & Behavior*. 4(6): 493 – 496.
- Choi, D. W., E. M. Rodriguez & T. J. Close. 2002. Barley Cbf3 Gene Identification, Expression Pattern and Map Location. *Plant Physiology*. 129 (4): 1781 – 1787.
- Chong, J., Marie-Agnes Pierrel, P. Atanassova, D. Werck-Reichhart, B. Fritig & P. Saindrenan. 2001. Free and Conjugated Benzoic Acid in Tobacco Plants and

- Cell Cultures. Induced Accumulation Upon Elicitation of Defense Response and Role as Salicylic Acid Precursors. *Plant Physiology*. 125 (1): 318 – 328.
- Chunthaburee, S., A. Dongsansuk, J. Sanitchon, W. Pattanagul & P. Threepakulpisut. 2016. Physiological and Biochemical Parameters for Evaluating and Clustering of Rice Cultivars Differing in Salt Tolerance at Seedling Stage. *Saudi Journal of Biological Sciences*. 23 (4): 467 – 477.
- Corpas, F. J. & J. B. Barroso. 2013. Nitro-Oxidative Stress vs Oxidative or Nitrosative Stress in Higher Plants. *New Phytologist Trust*. 199 (3): 633 – 635.
- Csiszár, J., E. Horváth, Z. Váry, Á. Gallé, K. Bella, S. Brunner & I. Tari. 2014. Glutathione Transferase Supergene Family in Tomato: Salt Stress-Regulated Expression of Representative Genes From Distinct GST Classes in Plants Primed With Salicylic Acid. *Plant Physiology Biochemistry*. 78 (5): 15 – 26.
- Dachlan, A., N. Kasim & K. Sari. 2013. Uji Ketahanan Salinitas Beberapa Varietas Jagung (*Zea mays* L.) dengan Menggunakan Agen Seleksi NaCl. *Biogenesis*. 1 (1): 9 – 17.
- Dajic, Z. 2006. “Salt Stress” dalam Rao, K. V. M., A. S. Raghavendra & K. J. Reddy (editors). *Physiology and Molecular Biology of Strees Tolerance in Plants*. Springer: Nethherlands. pp 41 – 83.
- Dat, J. F., N. Capelli & F. Van Breusegem. 2007. The Interplay Between Salicylic Acid and Reactive Oxygen Species During Cell Death Plants dalam S. Hayat & A. Ahmad (Editor). *Salicylic Acid: A Plant Hormone*. Springer: Netherlands. pp. 247 – 276.
- Davies, P. J., 1995. *Plant Hormones*. Kluwer Academic Publisher: New York. pp 188 – 205.
- Demidchik, V., T. A. Cuin, D. Svistunenko, S. J. Smith, A. J. Miller, S. Shabala, A. Sokolik & V. Yurin. 2010. Arabidopsis Root K⁺-Efflux Conductance Activated by Hydroxyl Radicals: Single-Channel Properties, Genetic Basis and Involvement in Stress-Induced Cell Death. *Journal of Cell Science*. 123 (9): 1468 – 1479.
- Diwan, H., I. Khan, A. Ahmad & M. Iqbal. 2010. Induction of Phytochelatins and Antioxidant Defence System in *Brassica juncea* and *Vigna radiate* in Response to Chromium Treatment. *Plant Growth Regulation*. 61: 97 – 107.
- Djanaguiraman, M. & P. V. Vara Prasad. 2013. Effect of Salinity on Ion Transport, Water Relations and Oxidative Damage dalam Ahmad P, M. M. Azooz & M. N. V. Prasad (Editor). *Ecophysiology and Responses of Plants Under Salt Stress*. Springer. New York. pp. 89 - 114.
- Djukri. 2009. Cekaman Salinitas Terhadap Pertumbuhan Tanaman. *Prosiding Seminar Nasional Penelitian, Pendidikan dan Penerapan MIPA*. B49 – B55.
- Dražić, G., N. Mihailović. 2005. Modification of Cadmium Toxicity in Soybean Seedlings by Salicylic Acid. *Plant Science*. 168: 511 – 517.
- El-Tayeb, M. A. 2005. Response of Barley Grains to the Interactive Effect of Salinity and Salicylic Acid. *Plant Growth Regulation*. 45 (3): 215 – 224.

- Escribano-Bailón, M. T., C. Santos-Buelga & J. C. Rivas-Gonzalo. 2004. Anthocyanins in Cereals. *Journal of Chromatography A*. 1054 (1 – 2): 129 – 141.
- Fageria, N. K., V. C. Baligar & C. A. Jones. 2011. *Growth and Mineral Nutrition of Fields Crops*. 3rd Edition. CRC Press: USA. pp 257 – 303.
- Fariduddin, Q., S. Hayat & A. Ahmad. 2003. Salicylic Acid Influences Net Photosynthetic Rate, Carboxylation Efficiency, Nitrate Reductase Activity and Seed Yield in *Brassica juncea*. *Photosynthetica*. 41 (2): 281 – 284.
- Farooq, S. & F. Azam. 2006. The Use of Cell Membrane Stability (CMS) Technique for Salt Tolerant Wheat Varieties. *Journal of Plant Physiology*. 163 (6): 629 – 637.
- Farooq, M., A. Wahid, D. J. Lee, S. A. Cheema & T. Aziz. 2010. Comparative Time Course Action of the Foliar Applied Glycine betaine, Salicylic Acid, Nitrous Oxide, Brassinosteroids and Spermine in Improving Drought Resistance of Rice. *Journal of Agronomy and Crop Science*. 196: 336 – 345.
- Finocchiaro, F. B. Ferrari, A. Gianinetti. 2010. A study of Biodiversity of Flavonoid Content in the Rice Caryopsis Evidencing Simultaneous Accumulation of Anthocyanins and Proanthocyanidins in a Black-Grained Genotype. *Journal of Cereal Science* 51 (1): 28 – 34.
- Fisarakis, I., K. Chantzoulakis & D. Stabarakis. 2001. Response of Sultana vines (*V. vinifera* L.) on Six Rootstocks to NaCl Salinity Exposure and Recovery. *Agricultural Water Management*. 51: 13 – 27.
- Gain, P., M. A. Mannan, P. S. Pal, M. M. Hossain & S. Parvin. 2004. Effect of Salinity on Some Yield Attributes of Rice. *Pakistan Journal of Biological Science*. 7 (5): 760 – 762.
- Ghai, N., R. C. Setia & N. Setia. 2002. Effects of Paclobutrazol and Salicylic Acid on Chlorophyll Content, Hill Activity and Yields Component in *Brassica napus* L. (cv. GSL-1). *Phytomorphology*. 52: 83 – 87.
- Gechev, T., V. Petrov & I. Minkov. 2011. Reactive Oxygen Species and Programmed Cell Death dalam Gupta, S. D. (Editor). *Reactive Oxygen Species and Antioxidant in Higher Plant*. CRC Press: United State of America. pp. 65 – 74.
- Gunes, A., A. Inal, M. Alpaslan, N. Cicek, E. Guneri, F. Eraslan & T. Guzelordu. 2005. Effect of Exogenously Applied Salicylic Acid on the Induction of Multiple Stress Tolerance and Mineral Nutrition in Maize (*Zea mays* L.). *Archives of Agronomy and Soil Science*. 51 (6): 687 – 695.
- Gunes, A., A. Inal, M. Alpaslan, F. Eraslan, E. G. Bagci & N. Cicek. 2007. Salicylic Acid Induced Changes on Some Physiological Parameters Symptomatic for Oxidative Stress and Mineral Nutrition in Maize (*Zea mays* L.) Grown Under Salinity. *Plant Physiology*. 164 (6). 728 – 736.
- Gupta, B. & B. Huang. 2013. Mechanism of Salinity Tolerance in Plants: Physiological, Biochemical, and Molecular Characterization. *International Journal of Genomics*. 2014: 1 – 18.

- Gupta, Dharmendra K., J. M. Palma. 2015. *Reactive Oxygen Species and Oxidative Damage in Plants Under Stress*. Springer International Publishing: Switzerland. pp. 1 – 82.
- Greenway, H. & R. Munns. 1980. Mechanisms of Salt Tolerance in Nonhalophytes. *Annual Review of Plant Physiology*. 31 (1): 149 – 190.
- Hakim, M. A., A. S. Juraimi, M. M. Hanafi, E. Ali, Mohd. Razi Ismail, A. Selamat S. S. Rezaul Karim. 2013. Effect of Salt Stress on Morpho-Physiology, Vegetative Growth and Yield of Rice. *Journal Environmental Biology*. 35 (2): 317 – 326.
- Hao, J. H., X. L. Wang, C. J. Dong, Z. G. Zhang & Q. M. Shang. 2010. Salicylic Acid Induces Stomatal Closure by Modulating Endogenous Hormone Levels in Cucumber Cotyledons. *Russian Journal of Plant Physiology*. 58 (5): 906 – 913.
- Hasanuzzaman, M., K. Nahar & M. Fujita. 2013. “Plant Response to Salt Stress and Role of Exogenous Protectants to Mitigate Salt-Induced Damages” dalam Ahmad P, M. M. Azooz & M. N. V. Prasad (Editor). *Ecophysiology and Responses of Plants Under Salt Stress*. Springer. New York. pp. 25 – 89.
- Hasegawa, P. M., R. A. Bressan, J. Zhu & H. J. Bohnert. 2000. Plant Cellular and Molecular Responses To High Salinity. *Plant Physiology*. 51 (1): 463 – 499.
- Hayat, S., S. A. Hasan, Q. Fariduddin & A. Ahmad. 2008. Growth of Tomato (*Lycopersicon esculentum*) in Response to Salicylic Acid Under Water Stress. *Journal of Plant Interactions*. 3 (4): 297 – 304.
- He, Y. & Zhu, Z. J. 2009. Exogenous Salicylic Acid Alleviates NaCl Toxicity and Increases Antioxidant Enzyme Activities in *Lycopersicon esculentum*. *Biologia Plantarum*. 52 (4): 792 – 795.
- Hernández, J. A., M. A. Ferrer, A. Jiménez, A. R. Barceló & F. Sevilla. 2001. Antioxidant System and O₂⁻/H₂O₂ Production in the Apoplast of Pea Leaves. Its Relation with Salt-Induced Necrotic Lesions in Minor Veins. *Plant Physiology*. 127 (3): 817 – 831.
- Horrie, T., K. Yoshida, H. Nakayama, K. Yamada, S. Oiki & A. Shimnyo. 2001. Two Types of HKT Transporters With Different Properties of Na⁺ and K⁺ Transport in *Oryza sativa*. *Plant Journal*. 27 (2): 129 – 138.
- Horváth, E., A. Gallé, A. Szepesi, I. Tari & J. Csizár. 2011. Changes in Aldehyde Oxidase Activity and Gene Expression in *Solanum lycopersicum* L. Shoot Under Salicylic Acid Pretreatment and Subsequent Salt Stress. *Acta Biologica Szegediensis*. 55 (1): 83 – 85.
- Hyun, J. W., H. S. Chung. 2004. Cyanidin and Malvidin From *Oryza sativa* var. Heungjinjubyeo Mediated Cytotoxicity Against Human Monocytic Leukemia Cells by Arrest of G(2)M Phase and Induction of Apoptosis. *Journal of Agriculture Food Chemistry*. 52 (8): 2213 – 2217.
- Hniličková, H., F. Hnilička, J. Martinková & K. Kraus. 2017. Effects of Salt Stress on Water Status, Photosynthesis and Chlorophyll Fluorescence of Rocket. *Plant Soil and Environment*. 63 (8): 362 – 367.
- Injamum-Ul-Hoque, M., Md. Nesar Uddin, Md. S. A. Fakir & Md. Rasel. 2018. Drought and Salinity Affect Leaf and Root Anatomical Structures in Three

- Maize Genotypes. *Journal of the Bangladesh Agricultural University*. 16 (1): 47 – 55.
- Ismail, M. A. 2013. Alleviation of Salinity Stress In White Corn (*Zea mays* L.) Plant by Exogenous Application of Salicylic Acid. *American Journal of Life Sciences*. 1 (6): 248 – 255.
- Jae-Ung, H. & L. Youngsook. 2001. Absciscic Acid-Induced Actin Reorganization in Guard Cells of Day Flower is Mediated by Cytosolic Calcium Levels and by Protein Phosphatase Activities. *Plant Physiology*. 125 (4): 2120 – 2128.
- Jajoo, A. 2013. Changes in Photosystem II in Response to Salt Strss. dalam Ahmad P, M. M. Azooz & M. N. V. Prasad (Editor). *Ecophysiology and Responses of Plants Under Salt Stress*. Springer: New York. pp. 149 – 168.
- Jamil, M., M. Ashraf, S. Rehman, M. Ahmad & E. S. Rha. 2012. Salinity Induced Changes in Cell Membrane Stability, Protein and RNA Contents. *African Journal of Biotechnology*. 11 (24): 6476 – 6483.
- Janda, T., G. Szala, Z. Antunovics & E. E. H. Paldi. 2000. Effect of Benzoic Acid and Aspirin on Chiling Tolerance and Photosynthesis in Young Mice Plants. *Mydica*. 45 (1): 29 – 33.
- Janda, T., O. K. Gondor, R. Yordanova, G. Szalai & M. Pal. 2014. Salicylic Acid and Photsynthesis: Signalling and Effects. *Acta Physiology Plant*. 36 (10): 2537 – 2546.
- Jayakannan, M., J. Bose, O. Babourina, Z. Rengel & S. Shabala. 2013. Salicylic Acid Improves Salinity Tolerance in *Arabidopsis* by Restoring Membrane Potensial and Preventing Salt-Induced K⁺ Loss Via A GORK Channel. *Journal of Experimental Botany*. 64 (8): 2255 – 2268.
- _____. 2015. Salicylic Acid in Plant Salinity Stress Signalling and Tolerance. *Plant Growth Regulator*. 76 (1): 1 – 17.
- Jeschke, W.D., A. D. Peuke, J. S. Pate & W. Hartung. 1997. Transport, Synthesis and Catabolismof Absciscic Acid (ABA) in Intact Plants of Castor Bean (*Ricinus communis* L.) Under Phosphate Deficiency and Moderate Salinity. *Journal of Experimental Botany*. 48 (314): 1737 – 1747.
- Jini, D. & Joseph B. 2017. Physiological Mechanism of Salicylic Acid for Alleviation of Salt Stress in Rice. *Rice Science*. 24 (2): 97 – 108.
- Jupp, A. P. & E. I. Newman. 1987. Morphological and Anatomical Effects of Severe Drought on The Roots of *Lolium Perenne* L. *New Phytologist*. 105 (3): 393 – 402.
- Kang-Zhu, J. 2002. Salt and Drought Stress Signal Transduction in Plants. *Annual Review of Plant Biology*. 53 (1): 247 – 273.
- Kazemi, N., Khavari-Nejad, R. A. Fahimi, H. Saadatmand & Nejad-Sattari T. 2010. Effects of Exogenous Salicylic Acid and Nitric Oxide on Lipid Peroxidation and Antioxidant Enzyme Activities in Leaves of *Brassica napus* L. Under Nickel Stress. *Scientia Horticulturae*. 126 (3): 402 – 407.

- Khan, W., B. Prithiviraj & D. L. Smith. 2002. Photosynthetic Responses of Corn and Soybean to Foliar Application of Salicylates. *Journal of Plant Physiol.* 160 (5): 485 – 492.
- Khan, M. I. R., M. Fatma, t. s. Per, N. A. Anjum & N. A. Khan. 2015. Salicylic Acid-Induced Abiotic Stress Tolerance and Underlying Mechanisms in Plants. *Frontiers in Plant Science.* 6 (462): 1 – 17.
- Khan, N. A., S. Syeed, A. Masood, R. Nazar & N. Iqbal. 2010. Application of Salicylic Acid Increase Contents of Nutrients and Antioxidative Metabolism in Mungbean and Alleviates Adverse Effect of Salinity Stress. *International Journal of Plant Biology.* 1 (1): E1 – E8.
- Khan. M. S. A., M. A. Karim, m. m. Haque, A. J. M. S. Karim & M. A. K. Mian. 2013. Screening of Soybean Genotypes for Salt Tolerance in Hydroponics. *Bangladesh Agronomy Journal.* 16 (1): 95 – 104.
- Kibria, M. G., M. Hossain, Y. Murata & Md. Anamul Hoque. 2017. Antioxidant Defense Mechanisms of Salinity Tolerance in Rice Genotypes. *Rice Science.* 24 (3): 155 – 162.
- Kim, Y., B. Mun, A. L. Khan, M. Waqas, H. Kim, R. Shenzad, M. Imran, B. Yun & I. Lee. 2018. Regulation of Reactive Oxygen and Nitrogen Species by Salicylic Acid in Rice Plants Under Salinity Stress Conditions. *PLoS ONE.* 13 (3): 1 – 20.
- Kong, L., Y. Wang & Y. Cao. 2008. Determination of *Myo*-Inositol and *D-Chiro*-Inositol in Black Rice Bran by Capillary Electrophoresis with Electrochemical Detection. *Journal of Food Composition and Analysis.* 21 (6): 501 – 504.
- Kristantini. 2008. Penampilan Cempo Ireng sebagai Sumberdaya Genetik Lokal Beras Hitam. *Prosiding Seminar Nasional Pengembangan Produk Berbasis Sumber Pangan Lokal untuk Mendukung Kedaulatan Pangan.* Program Studi Teknologi Hasil Pertanian Fak. Agroindustri Universitas Mercu Buana Yogyakarta Bekerjasama dengan Perhimpunan Ahli Teknologi Pangan (PATPI) Yogyakarta dan Lembaga Ilmu Pengetahuan Indonesia (LIPI). 90 – 100.
- Kristantini, Taryono, P. Basunanda, R. H. Murti, Supriyanta, S. Widyayanti & Sutarno. 2012. Morphological Genetic Relationship Among Black Rice Landraces from Yogyakarta and Surrounding Areas. *ARPN Journal of Agricultural and Biological Science.* 7 (12): 982 – 987.
- Kristantini, Taryono, P. Basunda & R. H Murti. 2014. Keragaman Genetik Kultivar Padi Beras Hitam Lokal Berdasarkan Penanda Mikrosateliit. *Jurnal Agro Biogen* 10 (2): 69 – 76.
- Kumar, D., M. Al Hassan, M. A. Naranjo, V. Agrawal, M. Boscaiu & O. Vicente. 2018. Effect of Salinity and Drought on Growth, Ionic Relations, Compatible Solutes and Activation of Antioxidant System in Oleander (*Nerium oleander* L.). *PloS One.* 12 (9): 1 – 22.
- Kushwaha, U. K. S. 2016. *Black Rice: Research, History and Development.* Springer International Publishing: Switzerland. pp 1 – 206.

- Kusvuran, S. 2012. Effects of Drought and Salt Stresses on Growth, Stomatal Conductance, Leaf Water and Osmotic Potensial of Melon Genotypes (*Cucumis melo* L.). *African Journal of Agricultural Research*. 7 (5): 775 – 781.
- Lee, D. H., Y. S. Kim & C. B. Lee. 2001. The Inductive Responses of The Antioxidant Enzymes by Salt Stress in the Rice (*Oryza sativa* L.). *Journal of Plant Physiology*. 158 (6): 737 – 745.
- Lee, S. C., S. Luan. 2012. ABA Signal Transduction at the Crossroad of Biotic and Abiotic Stress Responses. *Plant Cell Environment*. 35 (1): 53 – 60.
- Liu, S., Y. Dong, X. J. Kong. 2014. Effects of Foliar Application of Nitric Oxide and Salicylic Acid on Salt-Induced Changes in Photosynthesis and Antioxidative Metabolism of Cotton Seedlings. *Plant Growth Regulator*. 73 (1): 67 – 78.
- Lo Gullo, M. A., A. Nardini, P. Trifilo & S. Salleo. 2003. Changes in Leaf Hydraulics and Stomatal Conductance Following Drought Stress and Irrigation in *Ceratonia siliqua* (Carob Tree). *Physiologia Plantarum*. 117: (2) 186 – 194.
- Londo, J. P., Y. C. Chian, K. H. Hung, T. Y. Chiang, B. A. Schaal. 2006. Phylogeography of Asian Wild Rice, *Oryza rufipogon*, Reveals Multiple Independent Domestication of Cultivated Rice, *Oryza sativa*. *Proceedings of the National Academy of Science, USA*. 103 (25): 9578 – 9583.
- Lovelli, S., A. Scopa, M. Perniola, T. Di Tommaso & A. Sofo. 2012. Absciscic Acid Root and Leaf Concentration in Relation to Biomass Partitioning in Salinized Tomato Plants. *Journal of Plant Physiology*. 169 (3): 226 – 233.
- Ma, N. L. W. A. C. Lah, N. A. Kadir, M. Mustaqim, Z. Rahmat, A. Ahmad, S. D. Lam M. R. Ismail. 2018. Susceptibility and Tolerance of Rice Crop to Salt Threat: Physiological and Metabolic Inspection. *PLoS ONE* 13 (2). 1 – 17.
- Ma, X., J. Zheng, x. Zhang, Q. Hu & R. Qian. 2017. Salicylic Acid Alleviates the Adverse Effects of Salt Stress on *Dianthus superbus* (Caryophyllaceae) by Activating Photosynthesis, Protecting Morphological Structure, and Enhancing the Antioxidant System. *Frontiers in Plant Science*. 8: 600.
- Mansour, M. M. F. 1997. Cell Permeability Under Salt Stress. dalam Jaiwal, P. K., R. P. Singh, A. Gulati (Editor). *Strategic for Improving Salt Tolerance in Higher Plants*. Oxford dan IBH: New Delhi. pp. 87 – 110.
- Marschner, P. 2012. *Mineral Nutrition of Higher Plants*. Academic Press Elsevier: United Kingdom. pp 457 – 476.
- Medrano, H., J. M Escalona, J. Bota, J. Gulias, J. Flexelas. 2002. Regulation of Photosynthesis of C3 Plants in Response TO Progressive Drought: Stomatal Conductance as Reference Parameter. *Annals of Botany*. 89: (7) 895 – 905.
- Meguro, A. & Sato, Y. 2014. Salicylic Acid Antagonizes Absciscic Acid Inhibition of Shoot Growth and Cell Cycle Progression in Rice. *Scientific Reports*. 4: 4555.
- Mimouni, H., S. Wasti, A. Manan, A. Chalh, Mindari, W. 2009. *Cekaman Garam dan Dampaknya Pada Kesuburan Tanah dan Pertumbuhan Tanaman*. UPN Veteran Jawa Timur: Surabaya. pp 5 – 25.
- Mindari, W. 2009. *Cekaman Garam dan Dampaknya Pada Kesuburan Tanah dan Pertumbuhan Tanaman*. UPN Veteran Jawa Timur: Surabaya. pp 3 – 18.

- Moharekar, S. T., S. D. Lokhande, T. Hara, R. Tanaka, A. Tanaka & P. Chavan. 2003. Effect of Salicylic Acid on Chlorophyll and Carotenoid Contents on Wheat and Moong Seedlings. *Photosynthetic*. 41 (2): 315 -317.
- Munns, R. 2002. Comparative Physiology of Salt and Water Stress. *Plant Cell Environment*. 25 (2): 239 – 250.
- Munns, R., M. Tester. 2008. Mechanisms of Salinity Tolerance. *Annual Review Plant Biol*. 59: 651 – 681.
- Nam S. H., S. P. Choi, M. Y. Kang, J. H. Koh, N. Kozuke & M. Friedman. 2006. Antioxidative Activities of Bran Extracts From Twenty One Pigmented Rice Cultivars. *Food Chemistry*. 94 (4): 613 – 620.
- Nayidu, N., V. Bollina & S. Kagale. 2013. Oilseed Crop Productivity Under Salt Stress dalam Ahmad P, M. M. Azooz & M. N. V. Prasad (Editor). *Ecophysiology and Responses of Plants Under Salt Stress*. Springer. New York. pp. 249 – 265.
- Nemati, I., F. Moradi, S. Gholizadeh, M. A. Esmaeli, & M. R. Bihamta. 2011. The Effect of Salinity Stress On Ions and Soluble Sugars Distribution in Leaves, Leaf Sheats and Roots of Rice (*Oryza sativa* L.) Seedlings. *Plant Soil Environemnt*. 57 (1): 26 – 33.
- Noctor, G. & C. H. Foyer. 1998. Ascorbate and Glutathione: Keeping Active Oxygen Under Control. *Annual Review of Plant Biology*. 49 (1): 249 – 279.
- Ochiai, K., T. Matoh. 2002. Characterization of the Na⁺ Delivery From Roots to Shoots in Rice Under Saline Stress: Excessive Salt Enhances Apoplastic Transport in Rice Plants. *Soil Science Plant Nutrition*. 48 (3): 371 – 378.
- Oikinawa, T., H. Maeda, T. Oguchi, T. Yamaguchi, N. Tanabe, K. Ebana, M. Yano, T. Ebitani & T. Izawa. 2015. The Birth of Black Rice Gene and Its Local Spread by Introgression. *The Plant Cell*. 27 (9): 2401 – 2414.
- Pál, M., G. Szalai, V. Kovács, O. K. Gondor & T. Janda. 2013. “Salicylic Acid-Mediated Abiotic Stress Tolerance” dalam Hayat, S., A. Ahmad, M. N. Alyemeni (Editor). *Salicylic Acid Plant Growth and Develoment*. Springer. London. pp. 183 –227.
- Patel, B. N., M. P. Solanki, S. R. Patel & J. R. Desai. 2011. Effect of Bio-Fertilizers Growth, Physiological Parameters, Yield and Quality of Brinjal cv. Surati Ravaiya. *Indian Jurnal of Horticulture*. 68 (3): 370 – 374.
- Peng, Z., He S., Sun J., Pan Z., Gong, W., Lu, Y & Du, X. 2016. Na⁺ Compartmentalization Related to Salinity Stress Tolerance in Upland Cotton (*Gossypium hirsutum*) Seedlings. *Scientific Reports* (6): 1-14.
- Philpott, M., K. S. Gould, C. Lim, L. Ferguson. 2004. In Situ and In vitro Antioxidant Activity of Sweet Potato Anthocyanins. *Journal of Agriculture Food Chemistry*. 52 (6): 1511 – 1513.
- Qados, A. M. S. 2011. Effect of Salt Stress on Plant Growth and Metabolism of Bean Plant *Vicia faba* (L.). *Journal of the Saudi Society of Agricultural Sciences*. 10 (1): 7 – 15.

- Qiu, Q., Y. Guo, M. Dietrich, K. S. Schumaker & J. K. Zhu. 2001. Characterization of the Plasma Membrane Na⁺/H⁺ Exchanger in *Arabidopsis thaliana*. *Proceedings of the National Academy of Science*. 99 (12): 8436 – 8441.
- Rad, H. E., F. Aref, M. Khaledian, M. Rezaei, E. Amiri, & O. Y. Falakdehy. 2011. The Effects of Salinity at Different Growth Stage on Rice Yield. *ICID 21st International Congress on Irrigation and Drainage*: New Delhi. pp. 155 – 165.
- Rao, K. V. M., A. S. Raghavendra, K. Janardhan Reddy. 2006. *Physiology and Molecular Biology of Stress Tolerance in Plants*. Springer: Nethherlands. pp 41 – 100.
- Rasool, S., A. Hameed, M. M. Azooz, Munneb-u-Rehman, T. O. Siddiqi & P. Ahmaad. 2013. Salt Stress: Causes, Types and Responses of Plants dalam Ahmad P, M. M. Azooz & M. N. V. Prasad (Editor). *Ecophysiology and Responses of Plants Under Salt Stress*. Springer. New York. pp. 1 - 24.
- Reddy, M. S. Sanish & E. Lyengar. 1992. Photosynthetic Studies and Compartmentation of Ions in Different Tissues of *Salicornia brachiata* Under Saline Conditions. *Photosynthetica*. 26: 173 – 179.
- Reddy, I. N. B. L., B. Kim, I. Yoon, K. Kim & T. Kwon. 2017. Salt Tolerance in Rice: Focus on Mechanism and Approaches. *Rice Science*. 24 (3): 123 – 144.
- Riaz, M., M. S. Arif, M. A. Ashraf, R. Mahmood, T. Yasmeen, M. B. Shakoar, S. M. Shahzad, M. Ali, I. Saleem, M. Arif & S. Fahad. 2019. A Comprehensive Review On Rice Responses and Tolerance to Salt Stress dalam M. Hasanuzzaman, K. Nahar, M. Fujita & J. K. Biswas (Editor). *Advances in Rice Research for Abiotic Stress Tolerance*. Woodhead Publishing & Elsevier. United Kingdom. pp 133 – 158.
- Sa'adah, L. R., Supriyanta & Subejo. 2013. Keragaman Warna Gabah dan Warna Beras Varietas Lokal Padi Beras Hitam (*Oryza sativa* L.) yang dibudidayakan oleh Petani Kabupaten Sleman, Bantul dan Magelang. *Vegatalika*. 2(3): 13 – 20.
- Sah, S. K., K. R. Reddy & J. Li. 2016. Abciscic Acid and Abiotic Stress Tolerance in Crop Plants. *Frontiers in Plant Science*. 7: 571.
- Sairam, R. K. & N. Murata. 2002. Differential Response of Wheat Genotypes to Longterm Salinity Stress in Relation to Oxidative Stress, Antioxidant Activity and Osmolyte Concentration. *Plant Science*. 163 (5): 1037 – 1046.
- Salisbury, F. B. & C. W. Ross. 1995. *Plant Physiology*. Fourth Edition. California: Wasworth Publishing Company.
- Schmidt, R., D. Mieulet, H. M. Hubberten, T. Obata, R. Hoefgen, A. R. Fernie, J. Fisahn, B. S. Segundo, E. Guiderdoni, J. H. M. Schippers & B. Mueller-Roeber. 2013. Salt-Responsive ERF1 Regulates Reactive Oxygen Species-Dependent Signaling During the Initial Response to Salt Stress in Rice. *Plant Cell*. 25 (6): 2115 – 2131.
- Shabala, S. 2009. Salinity and Programmed Cell Death: Unravelling Mechanisms for Ion Specific Signalling. *Journal of Experimental Botany*. 60 (3). 709 – 712.
- Shabala, S., R. Munns. 2012. *Plant Stress Physiology*. CAB International. UK. pp. 59 – 93.

- Shahid, M. A., R. M. Balal, M. A. Parvez, T. Abbas, M. Ashfaq, U. Ghazanfar, M. Afzal, A. Rashid, F. Garcia-Sanches & N. S. Mattson. 2012. Differential Response of Pea (*Pisum sativum* L.) Genotypes to Salt Stress in Relation to the Growth, Physiological Attributes Antioxidat Activity and Organic Solutes. *Australian Journal of Crop Science*. 6 (5): 828 – 838.
- Shakirova, F. M., A. R. Sakhabutdinova, M. V. Bezrukova, R. A. Fatkhutdinova, D. R. Fatkhutdinova. 2003. Changes in the Hormonal Status of Wheat Seedlings Induce by Salicylic Acid and Salinity. *Plant Science*. 164 (3): 37 – 322.
- Shakirova, F. M., M. V. Bezrukova & D. R. Maslennikova. 2013. Endogenous ABA as a Hormonal Intermediate in the Salicylic Acid Induced Protection of Wheat Plants Against Toxic Ions. Dalam S. Hayat, A. Ahmad, M. N. Alyemeni. *Salicylic Acid Plant Growth and Development*. Springer: New York. pp. 119 – 137.
- Sharafizad, M., S. Iak & M. Naghaszadeh. 2014. Effect of Salicylic Acid and Water Stress on Proline Accumulation and Cell Membrane Stability of Wheat (*Triticum aestivum* L.). *Advances in Environmental Biology*. 7 (14): 4789 – 4794.
- Shi, H. & J. K. Zhu. 2002. Regulation of Expression of the Vacuolar Na⁺/H⁺ Antiporter Gene AtNHX1 by Salt Stress and Absciscic Acid. *Plant Molecular Biology*. 50 (3): 543 – 550.
- Simaei, M., R. A. Khavari-Najed, S. Saadatmand, F. Bernard & H. Fahimi. 2011. Effects of Salicylic Acid and Nitric Oxide on Antioxidant Capacity and Proline Accumulation in *Glycine max* L. Treated with NaCl salinity. *African Journal of Agricultural Research*. 6 (16): 3775 – 3782.
- Singh, B. & K. Usha. 2003. Salicylic Acid Induced Physiological and Biochemical Changes in Wheat Seedlings Under Water Stress. *Plant Growth Regulation*. 39 (2): 137 – 141.
- Spollen, W. G., M. E. LeNoble, T. D. Samuels, N. Bernstein & R. E. Sharp. 2000. Absciscic Acid Accumulation Maintains Maize Primary Root Elongation al Low Water Potentials by Restricting Ethylene Production. *Plant Physiology*. 122 (3): 967 – 976.
- Sutoro, T. Suhartini, M. Setyowati & K. R. Trijatmiko. 2015. Keragaman Malai Anakan dan Hubungannya dengan Hasil Padi Sawah (*Oryza sativa*). *Buletin Plasma Nutfah*. 21 (1): 9 – 16.
- Suyitno, D. Suryani & Ratnawati. 2003. Tanggapan Stomata dan Laju Transpirasi Daun *Vaccinium varingiaefolium* (Bl.) Miq. Menurut Tingkat Perkembangan Daun dan Jarak Terhadap Sumber Emisi Gas Belerang Kawah Sikidang Dataran Tinggi Dieng. Seminar Hasil Penelitian MIPA. 1 – 14.
- Szepesi, Á., J. Csizár, Sz. Bajkán, K. Gémes, F. Horváth, L. Erdei, A. K. Deér, M. L. Simon & I. Tari. 2005. Role of Salicylic Acid Pre-Treatment on the Acclimation of Tomato Plantss to Salt and Osmotic Stress. *Acta Biologica Szegediensis*. 49 (1 – 2): 123 – 125.
- Szepesi, Á., J. Csizár, K. Gémes, F. Horváth, L. & M. L. Simon. 2009. Salicylic Acid Improves Acclimation to Salt Stress by Stimulating Absciscic Aldehyde Oxidase

- Activity and Absciscic Acid Accumulation, and Increase Na^+ content in Leaves without Toxicity Symptoms in *Solanum lycopersicum* L. *Journal of Plant Physiology*. 166 (9): 914 – 925.
- Taşgin, E., Ö. Atıcı, B. Nalbantoğlu & L. P. Popova. 2006. Effect of Salicylic Acid and Cold Treatments on Proteins Levels and On the Activities of Antioxidant Enzymes in the Apoplast of Winter Wheat Leaves. *Phytochemistry*: 67 (7): 710 – 715.
- Tounekti, T., I. Hernández & S. Munné-Bosch. 2013. “Salicylic Acid Biosynthesis and Role in Modulating Terpenoid and Flavonoid Metabolism in Plant Responses to Abiotic Stress” dalam Hayat, S., A. Ahmad, M. N. Alyemeni (Editor). *Salicylic Acid Plant Growth And Development*. Springer. London. pp. 141 – 154.
- Uzunova, A. N. & L. P. Popova. 2000. Effect of Salicylic Acid on Leaf Anatomy and Chloroplast Ultrastructure of Barley Plants. *Photosynthetica*. 38 (2): 243 – 250.
- Vlot, A. C., D. A. Dempsey & D. F. Klessig. 2009. Salicylic Acid, A Multifaceted Hormone to Combat Disease. *Annual Review of Phytopathology*. 47: 177 – 206.
- Xiong, L. 2007. “Absciscic Acid in Plant Response and Adaptation to Drought and Salt Stress” dalam Jenks M. A., P. M. Hasegawa & S. M. Jain (Editor). *Advances in Molecular Breeding Toward Drought and Salt Tolerant Crops*. Springer. Netherlands. pp. 206 – 208.
- Xiong L. & J-K Zhu. 2003. Regulation of Absciscic Acid Biosynthesis. *Plant Physiol*. 133 (1): 29 – 36.
- Yang, Y., M. Qi & C. Mei. 2004. Endogenous Salicylic Acid Protects Rice Plants From Oxidative Damage Caused by Aging as well as Biotic and Abiotic Stress. *Plant Journal*. 40 (6): 909 – 919.
- Yokoi, S., F. J. Quintero, B. Cubero, M. T. Ruiz, R. A. Bressan, P. M. Hasegawa & J. M. Pardo. 2002. Differential Expression and Function of *Arabidopsis thaliana* NHX Na^+/H^+ Antiporters in the Salt Stress Response. *Plant Journal*. 30 (5): 529 – 539.
- Younis, A., A. Riaz & I. Ahmed, A. I. Siddique, U. Tariq, M. Hameed & M. Nadeem. 2014. Anatomical Changes induced by NaCl Stress in Root and Stem of *Gazania harlequin* L. *Agricultural Communications*. 2 (3): 8 – 14.
- Yusuf, M., S. A. Hayat, Q. Fariduddin & A. Ahmad. 2008. Effect of Salicylic Acid on Salinity-Induced Changes in *Brassica juncea*. *Journal of Integrative Plant Biology*. 50 (9): 1096 – 1102.
- Zeng, L., & M. C. Shannon. 2000. Salinity on Seedling Growth and Yield Component. *Crop Science*. 40: 996 – 1003.
- Zhang, S. Q. & D. F. Klessig. 2001. MAPK Cascades in Plant Defense Signaling. *Trends in Plant Science*. 6 (11): 520 – 527.
- Zhang, Y., S. Xu, P. Ding, D. Wang, Y. T. Cheng, J. He, M. Gao, F. Xu, Z. Zhu, X. Li & Y. Zhang. 2010. Control of Salicylic Acid Synthesis and Systemic Acquired Resistance by Two Members of A Plant-Specific Family of Transcription

- Factors. *Proceedings of the National Academy of Science*. 107 (42): 18220 – 18225.
- Zhou, C., C. A. Busso, Y. G. Yang, Z. Zhang, Z. W. Wang, Y. F. Yang & X. G. Han. 2017. Effect of Mixed Salt Stress on Malondialdehyde, Proteins and Antioxidant Enzymes of *Leymus chinensis* in Three Leaf Colors. *International Journal of Experimental Botany*. 86: 205 – 213.
- Zhu, Jian-Kang. 2003. Regulation of Ion Homeostasis Under Salt Stress. *Current Opinion Plant Biology*. 6 (5): 441 – 445.