

## DAFTAR PUSTAKA

- Abenavoli, M.R., M. Badiani, A. Sorgona & G. Cacco. 2001. Effetti della cumarina el nitrato sullo stato antiossidante di semenza i di frumento duro (*Triticum durum* Desf. Cv. Simeto). Proc. Nat. Conf. of The Italian Society of Agricultural Chemistry (SICA). Pisa. 25–40 pp.
- Abenavoli, M.R., A. Sorgona, M. Sidari, M. Badiani & A. Fuggi. 2003. Coumarin inhibits the growth of carrot (*Daucus carota* L. cv. Saint Valery) cell in suspension culture. J. Plant Physiol. 160: 227–237.
- Abenavoli, M.R., A. Lupini, S. Oliva & A. Sorgona. 2010. Allelochemical effects on net nitrate uptake and plasma membrane H<sup>+</sup>-ATPase activity in maize seedlings. Biol. Plant. 54: 149–153.
- Adimihardja, M. 1992. Pengaruh Pemupukan Awal dan Inokulasi Rhizobium terhadap Pertumbuhan dan Hasil Beberapa Varietas Kedelai. Pusat Penelitian dan Pengembangan Tanaman Pangan. Bogor.
- Adio, A.M. 2009. Germacrenes A – E dan senyawa terkait: termal, fotokimia dan asam, siklusasi transannular yang diinduksi. Tetrahedron. 65: 1533–1552.
- Adisarwanto, T., Marwoto, D.M. Arsyad, A.G. Manshuri, R. Margono & Suryanto. 1998. Pola kebijakan peningkatan produksi kedelai menuju swasembada. Balai Penelitian Kacang-kacangan dan Umbi-umbian. Malang.
- Adisarwanto, T. & R. Wudianto. 1999. Meningkatkan Hasil Panen Kedelai di Lahan Sawah-Kering-Pasang Surut. Penebar Swadaya. Jakarta.
- Albuquerque, M.B., R.C. Santos, L.M. Lima, P.A. Melo-Filho, R.J.M.C. Nogueira, C.A.G. Câmara & A.R. Ramos. 2011. Allelopathy, an alternative tool to improve cropping systems. A review. Agron. Sust. Dev. 31: 379–395.
- Aldrich, R.J. 1984. Weed – Crop Ecology: Principles in Weed Management. Breton Publishers. North Scituate Massachussetts. 465 p.
- Alexieva, V., I. Sergief, S. Mapelli & E. Karanov. 2001. The effect of drought and ultraviolet radiation on growth and stress markers in pea and wheat. Plant Cell. Environ. 24: 1337–1344.
- Aleksieva, A. & P. Marinov-Serafimov. 2008. A study of allelopathic effect of *Amaranthus retroflexus* (L.) and *Solanum nigrum* (L.) in different soybean genotypes. Herbologia. 9:47–58.
- Ali, H.H., A. Tanveer, M.A. Nadeem, M.M. Javaid, M.S. Kashif & A.R. Chadhar. 2012. Allelopathic effects of *Rhynchosia capitata* on germination and seedling growth of mungbean. Planta Daninha. 31: 501–509.
- Alsadon, A.A., M. A. Wahb-allah & S.O. Khalil. 2006. In vitro evaluation of heat stress tolerance in some tomato cultivars. J. King Saud Univ. Agric. Sci. 19: 13–24.
- An, M., J. Pratley & T. Haig. 1998. Allelopathy: from concept to reality. Proc. of the 9<sup>th</sup> Australian Agronomy Conference. Wagga Wagga. 563–566 pp.
- Anderson, W.P. 2007. Weed Science: Principles and Applications. Third Edition. Waveland Press, Inc. USA. 59 p.
- Anonim. 2005. Deskripsi Varietas Unggul Kacang-kacangan dan Umbi-umbian. Balai Penelitian Tanaman Aneka Kacang dan Umbi. Malang.

- Anonim. 2015. Critical Weed Free Period. <<http://www.thompsonslimited.com/2015/05/19/critical-weed-free-period/>> (diakses 17 Februari 2017).
- Anonim. 2016. Rekayasa Ekologi (Tanaman Refugia) untuk Sistem Pproduksi Padi Berkelanjutan dan Tangguh. <[http://distan.jogjaprovo.go.id/index.php?option=com\\_content&view=article&id=8553:rekayasa-ekologitanamanrefugia-untuk-sistem-produksipadi-berkelanjutandantangguh&catid=41:artikel&Itemid=514](http://distan.jogjaprovo.go.id/index.php?option=com_content&view=article&id=8553:rekayasa-ekologitanamanrefugia-untuk-sistem-produksipadi-berkelanjutandantangguh&catid=41:artikel&Itemid=514)> (diakses 16 Februari 2017).
- Anonim. 2018. Produksi, Luas Panen dan Produktivitas Palawija di Indonesia, 2014 - 2018. <[https://www.pertanian.go.id/Data5tahun/TPATAP2017\(pdf\)/01PalawijaNasional.pdf](https://www.pertanian.go.id/Data5tahun/TPATAP2017(pdf)/01PalawijaNasional.pdf)> (diakses 02 September 2019).
- Anonim. 2019. Theories explaining growth of the plant at its apex and root tip. <<https://www.flexiprep.com/NIOS-Notes/Biology/NIOS-Biology-Ch-5-Tissue-e-and-Other-Levels-of-Organization-Part-4.html>> (diakses 30 Juni 2019).
- AOSA (Association of Official Seed Analysis). 1988. Seed Vigor Testing Handbook, AOSA Handbook on Seed Testing Contribution No. 32. Ston Printing Company. Lansing, Michigan. 93 p.
- Arini, N., D.W. Respatie & S. Waluyo. 2015. Pengaruh takaran SP36 terhadap pertumbuhan, hasil dan kadar karotena bunga *Cosmos sulphureus* Cav. dan *Tagetes erecta* L. di dataran rendah. Veg. 4: 1–14.
- Arora, K., D.R. Batish, H.P. Singh & R.K. Kohli. 2015. Allelopathic potential of the essential oil of wild marigold (*Tagetes minuta* L.) against some invasive weeds. J. Environ. Agri. Sci. 3: 56–60.
- Arunbabu, T. & S.N. Jena. 2018. Weeds and progressive weed management techniques in rice (*Oryza sativa* L.): a review. BEPLS 7: 108–117.
- Arve, L.E., S.Torre., J.E. Olsen & K.K.Tanino. 2011. Stomatal Responses to Drought Stress and Air Humidity, Abiotic Stress in Plants - Mechanisms and Adaptations. Arun Shanker and B. Venkateswarlu, Ed. InTech Publisher. London. 267–280 pp.
- Arvin, M.J. & D.J. Donnelly. 2008. Screening potato cultivars and wild species to abiotic stresses using an electrolyte leakage bioassay. J. Agric. Sci. Technol. 10: 33–42.
- Ashrafi, Z.Y., S. Sadeghi, H.R. Mashhadi & M.A. Hassan. 2008. Allelopathic effects of sunflower (*Helianthus annuus*) on germination and growth of wild barley (*Hordeum spontaneum*). IJAT. 4: 219–229.
- Aslam, M., B. Sultana, F. Anwar & H. Munir. 2016. Foliar spray of selected plant growth regulators affected the biochemical and antioxidant attributes of spinach in a field experiment. Turk. J. Agric. For. 40: 136–145.
- Audus, L.J. 1976. Herbicides. 2<sup>nd</sup> Edition. Vol 1. Academic Press. London. 608 p.
- Ayep, A.E., H.B. Jannet & F.H. Skhiri. 2013. Effect of *Acacia cyanophylla* Lind. extracts on seed germination and seedling growth of four crop and weed plants. Turk. J. Biol. 37: 1–10.
- Bais, H.P., R. Vepachedu, S. Gilroy, R.M. Callaway & J.M. Vivanco. 2003. Allelopathy and exotic plant invasion: from molecules and genes to species interactions. Science. 301: 1377–1380.

- Bais, H.P., T.L. Weir, L.G. Perry, S. Gilroy & J.M. Vivanco. 2006. The role of root exudates in rhizosphere interactions with plants and other organisms. *Annu. Rev. Plant Biol.* 57: 233–266.
- Bakkali, F., S. Averbeck, D. Averbeck & M. Idaomar. 2008. Biological effects of essential oils — a review. *Food Chem. Toxicol.* 46: 446–475.
- Balai Penelitian Tanah (Balittanah). 2009. Analisis Kimia Tanah, Tanaman, Air dan Pupuk. Balai Penelitian Tanah. Bogor.
- Baleroni, C.R.S., M.L.L. Ferrarese, N.E. Souza & O. Ferrarese-Filho. 2000. Lipid accumulation during canola seed germination in response to cinnamic acid derivates. *Biol. Plant.* 43: 313–316.
- Bano, M.A.J.D., J. Lorente, J.A.N. Castillo, O.B. Garciaa, J.A.D. Rio, A. Ortuno, K.W. Quirin & D. Gerard. 2003. Phenolic diterpenes, flavones, and rosmarinic acid distribution during the development of leaves, flowers, stems, and roots of *Rosmarinus officinalis* antioxidant activity. *J. Agric. Food Chem.* 22: 4247–4253.
- Barnes, J.P., A.R. Putnam & B.A. Burke. 1986. Allelopathic activity of rye (*Secale cereale* L.). In: A.R. Putnam & C.S. Tang (Eds.). *The Science of Allelopathy*. Wiley-Interscience. New York. 271–286 pp.
- Batish, D.R., H.P. Singh, R.K. Kohli & S. Kaur. 2001. Crop allelopathy and its role in ecological agriculture. *J. Crop. Prod.* 4: 121–161.
- Batish, D.R., K. Arora, H.P. Singh & R.K. Kohli. 2007. Potential utilization of dried powder of *Tagetes minuta* as a natural herbicide for managing rice weeds. *Crop Prot.* 26: 566–571.
- Batish, D.R., H.P. Singh, S. Kaur, R.K. Kohli & S.S. Yadav. 2008. Caffeic acid affects early growth, and morphogenetic response of hypocotyl cuttings of mung bean (*Phaseolus aureus*). *J. Plant Physiol.* 165: 297–305.
- Belz, R.G. 2007. Allelopathy in crop/weed interactions—an update. *Pest Manag. Sci.* 63: 308–326.
- Bennet, T.P. 1968. *Graphic Biochemistry Vol. 2*. The Macmillan Co. New York.
- Bernat, W., H. Gawronska, W. Zakresewska & S.W. Gawronski. 2007. Physiological effects of allelopathic activity of sunflower on mustard. *Allelopath. J.* 19: 1–10.
- Bergin, D. 2011. *Weed Control Options for Coastal Sand Dunes: A Review*. New Zealand Forest Research Institute LTD. New Zealand. 5–13 pp.
- Bergmark, C.L., W.A. Jackson, R.J. Volk & U. Blum. 1992. Differential inhibition by ferulic acid of nitrate and ammonium uptake in *Zea mays* L. *Plant Physiol.* 98: 639–645.
- Bewly, J.D. 1997. Seed germination and dormancy. *Plant Cell.* 9: 1055–1066.
- Beyer, W.F.Jr. & I. Fridovich. 1986. Assaying for Superoxide Dismutase Activity: Some Large Consequences of Minor Changes in Conditions. *Anal. Biochem.* 161: 559–566
- Blainski, A., G.C. Lopes & J.C.P. de Mello. 2013. Application and analysis of the folin ciocalteu method for the determination of the total phenolic content from *Limonium brasiliense* L. *Molecules.* 18: 6852–6865.

- Blum, U. 1996. Allelopathic interactions involving phenolic acids. *J. Nemat.* 28: 259–267.
- Blum, A. & A. Ebercon. 1981. Cell membrane stability as a measure of drought and heat tolerance in wheat. *Crop Sci.* 21: 43–47.
- Bogatek, R. & J. Stephien. 2003. Allelopathic potential of sunflower. I. effect on reserve mobilization and energy generation in germinating mustard (*Sinapsis alba* L.) seeds. *Acta Physiol. Plant.* 25: 5–17.
- Bogatek, R., A. Gniadzwoska, W. Zakrzewska, K. Oracz & S.W. Gawronski. 2006. Allelopathic effects of sunflower extracts on mustard seed germination and seedling growth. *Biol. Plant.* 50: 156–158.
- Botsaris, A.S. 2007. Plants used traditionally to treat malaria in Brazil: the archives of flora medicinal. *J. Ethnobiol. Ethnomed.* 3: 14–18.
- Bouazizi, H., H. Jouili & E.E. Ferjani. 2007. Effects of copper excess on growth, H<sub>2</sub>O<sub>2</sub> production and peroxidase activities in maize seedling (*Zea mays*). *Pak. J. Biol. Sci.* 10: 751–756.
- Bradford, M.M. 1976. A rapid and sensitive method for the quantitation of microgram quantities of protein utilizing the principle of protein-dye binding. *Anal. Biochem.* 72: 248–254.
- Braithwaite, A. & F.J Smith. 1995. *Chromatographic Methods*. Kluwer Academic Publishers. London.
- Brandli, D. & S. Reinacher. 2012. Herbicides found in human urine. *Ithaka J.* 1: 270–272.
- Bremner, J.M. & C.S. Mulvaney. 1982. Nitrogen total. *In*: A.L. Page, R.H. Miller & D.R. Keeny (Eds.). *Methods of Soil Analysis, Part 2. Chemical and biological properties. Second Edition. Agronomy Monograph No. 9.* ASA Inc. and SSSA Inc. Madison, Winconsin, USA. 595–624 pp.
- Burgos, N.R., R.E. Talbert, K.S. Kim & Y.I. Kuk. 2004. Growth inhibition and root ultrastructure of cucumber seedlings exposed to allelochemicals from rye (*Secale cereale*). *J. Chem. Ecol.* 30: 671–689.
- Cai, S.L. & X.Q. Mu. 2012. Allelopathic potential of aqueous leaf extracts of *Datura stramonium* L. on seed germination, seedling growth and root anatomy of *Glycine max* (L.) Merrill. *Allelopath. J.* 30: 235–245.
- Campbell, G.J., D.H. Lambert, T. Arnason & G.H.N. Towers. 1982. Allelopathic properties of c-terthienyl and phenylheptatriyne, naturally occurring compounds from species of asteraceae. *J. Chem. Ecol.* 8: 961–973.
- Chauvel, B., J.P. Guillemin, J. Gasquez & C. Gauvrit. 2012. History of chemical weeding from 1944 to 2011 in France: changes and evolution of herbicide molecules. *Crop Prot.* 42: 320–326.
- Cheng, F. & Z. Cheng. 2015. Research progress on the use of plant allelopathy in agriculture and the physiological and ecological mechanism of allelopathy. *Front. Plant Sci.* 6: 1–16.
- Chotimah, H.E.N.C, S. Yahya, M. Ghulamahdi & S. Sabiham. 2013. Aluminum-induced physiological responses of *Aloe vera* grown in the presence of phenolic and carboxylic acid derivatives. *J. Agripeat.* 14: 70–77.

- Cakmak, I., D. Strbac & H. Marschner. 1993. Activities of hydrogen peroxide scavenging enzymes in germinating wheat seeds. *J. Exp. Bot.* 44: 127–132.
- Chon, S.U., Y.M. Kim & J.C. Lee. 2003. Herbicidal potential and quantification of causative allelochemicals from several compositae weeds. *Weed Res.* 43: 444–450.
- Chozin, M.A., Y. Delsi, R. Saputra, N. Syarifi, S.A. Arifin & S. Zaman. 2013. Some studies on allelopathic potential of *Cyperus rotundus* L. Proceedings of 24<sup>th</sup> Asian-Pacific Weed Science Society Conference. Bandung.
- Chung, I.M. & D.A. Miller. 1995. Natural herbicide potential of alfalfa residue on selected weed species. *Agron. J.* 87: 920–925.
- Chung, I.M. 2002. Screening of allelochemicals on barn yard grass (*Echinochloa crus-galli*) and identification of potentially allelopathic compounds from rice (*Oryza sativa*) variety hull extracts. *Crop Prot. J.* 21: 913–920.
- Chung, I.M. 2003. Comparison of allelopathic potential of rice leaves, straw, and hull extracts on barn yard grass. *Agron. J.* 95: 1063–1070.
- Collado, M.B., M.J. Arturi, M.B. Aulicino & M.C. Molina. 2010. Identification of salt tolerance in seedling of maize (*Zea mays* L.) with the cell membrane stability trait. *Int. Res. J. Plant Sci.* 1: 126–32.
- Cruz-Ortega, R., A.L. Anaya & L. Ramos. 1988. Effects of allelopathic compounds of corn pollen on respiration and cell division of watermelon. *J. Chem. Ecol.* 14: 71–86.
- Cruz-Ortega, R., G. Ayala-Cordero & A.L. Anaya. 2002. Allelochemical stress produced by the aqueous leachate of *Callicarpa acuminata*: effects on roots of bean, maize, and tomato. *Physiol. Plant.* 116: 20–27.
- Dadkhah, A. 2015. Allelopathic potential of canola and wheat to control weeds in soybean (*Glycine max*). *Russ. Agric. Sci.* 41: 111–114.
- Dalton, B.R. 1999. The occurrence and behavior of plant phenolics acid in soil environmental and their potential involvement in allelochemical interference interaction: methodological limitation in establishing conclusive proof of allelopathy. *In*: Inderjit, K.M.M. Daksini & C.L. Foy (Eds). *Principles and Practices in Plant Ecology: Allelochemical Interaction*. CRC Press. Florida. 57–74 pp.
- Darana, S. 2013. Allelopathic activity of lantana leaf extract (*Lantana camara*) on the weed in tea (*Camellia sinensis*). Proceedings of 24<sup>th</sup> Asian-Pacific Weed Science Society Conference. Bandung.
- Darmadji, P., Supriyadi & Hidayat, 1999. Produksi asap cair limbah padat rempah dengan cara pirolisa. *Agritech.* 19: 11–15.
- De Datta, S.K. 1981. *Principles and Practices of Rice Production*. John Wiley and Sons. New York. 618 p.
- Delvin, M.D. & F.H. Witham. 1983. *Plant Physiology*. Williard Grant Press. Boston.



- Del Río, L.A., L.M. Sandalio, J.M. Palma, P. Bueno & F.J. Corpas. 1992. Metabolism of oxygen radicals in peroxisomes and cellular implications. *Free Radic. Biol. Med.* 13: 557–580.
- De Wit, C.T. & T.H. Alberda. 1961. Transpiration coefficient and transpiration rate of three grain species in growth chambers. *JAARB. I.B.S.* 73–81.
- Ding, J., Y. Sun, C.L. Xiao, K. Shi, Y.H. Zhou & J.Q. Yu. 2007. Physiological basis of different allelopathic reactions of cucumber and fig leaf gourd plants to cinnamic acid. *J. Exp. Bot.* 58: 3765–3773.
- Dix, N.J. & J. Webster. 1995. *Fungal Ecology*. Chapman and Hall. London.
- Djurdjevic, L., A. Dinic, P. Pavlovic, M. Mitrovic, B. Karadzic & V. Tesevic. 2004. Allelopathic potential of *Allium ursinum* L. *Biochem. Syst. Ecol. J.* 32: 533–544.
- Doorenbos, J. & A.H. Kassam. 1979. Yield response to water. *FAO Irrigation and Drainage Paper No 33*. 193 p.
- Duke, S.O. & J. Lydon. 1993. Natural phytotoxins as herbisida, pes control with enhadce environmental safety. *ACS Symp. Ser. Am. Chem. Soc.* 542: 111–121.
- Duke, S.O. & J. Lydon. 1993. Natural phytotoxins as herbisida. Pes control with enhadce environmental safety. *ACS symp ser 542. Am. Chem. Soc.* 111–121.
- Duke, S.O., F.E. Dayan, J.G. Romagni & A.M. Rimando. 2000. Natural products as a source of herbicides: current status and future trends. *Weed Res.* 40: 99–111.
- Durigan, J.C., P.C. Timossi & N.M. Correia. 2006. Integrated management of purple nutsedge on sugarcane yield. *Planta Daninha.* 24: 77–81.
- Drost, D.C. & J.D. Doll. 1980. The allelopathic effect of yellow nutsedge (*Cyperus esculentus*) on corn and soybeans. *Weed Sci.* 28: 229–233.
- Eberhart, S.A. & W.A. Russell. 1966. Stability parameters for comparing varieties. *Crop Sci.* 6: 36–40.
- Einhellig, F.A. & J.A. Rasmussen. 1989. Prior cropping with grain sorghum inhibits weeds. *J. Chem. Ecol.* 15: 951–960.
- Einhellig, F.A. 1995. Mechanism of action of allelochemichals in allelopathy. *In*: Inderjit, K.M.M. Daksini & F.A. Einhellig (Eds.). *Allelopathy: organism, proseses and aplications*. Am. Chem. Soc. Washington D.C.
- Einhellig, F.A. 1996. Interactions involving allelopathy in cropping systems. *Agron. J.* 88: 886–893.
- Einhellig, F.A. 2004. Mode of allelochemical action of phenolic compounds. *In*: F.A. Macías, J.C.G. Galindo, J.M.G. Molinillo & H.G. Cutler. *Allelopathy: Chemistry and Mode of Action of Allelochemicals*. CRC Press. Florida. 217–255 pp.
- Elakovich, S.D. & J.W. Wooten. 1995. Allelopathic woody plant, part I: *Abies alba* through *Lyonia lucida*. *Allelopath. J.* 2: 117–146.

- El-Rokiek, K.G. 2007. Evaluating the physiological influence of benzoic and cinnamic acids, alone or in combination on wheat and some infested weeds comparing with the herbicide isoproturon. *Ann. Agric. Sci.* 52: 45–58.
- El-Rokiek, K.G., I.M. El-Metwally, N.K. Messiha & S.A.S. El-Din. 2007. Influence of some herbicides on the growth and propagative capacity of purple nutsedge (*Cyperus rotundus* L.). *J. Agric. Sci.* 32: 2477–2489.
- El-Rokiek, K.G., T.A. El-Shahawy & F.A. Sharara. 2006b. New approach to use rice straw waste for weed control II. The effect of rice straw extract and fusillade (herbicide) on some weeds infesting soybean (*Glycin max* L.). *Int. J. Agric. Biol.* 8: 269–275.
- El-Rokiek, K.G., S.A.S. El-Din & R.R. El-Masry. 2006a. Improving the control of purple nutsedge (*Cyperus rotundus* L.) with glyphosate by preconditioning treatment with benzyl adenine. *Egypt. J. Appl. Sci.* 21: 79–96.
- El-Rokiek, K.G., S.A.S. El-Din, N.K. Messiha & R.R. El-Masry. 2009. Effect of growth regulators, alar or trichlorobenzoic acid and the herbicide basagran on the growth and propagative capacity of purple nutsedge (*Cyperus rotundus* L.). *Ann. Agric. Sci.* 54: 59–75.
- Ervin, G.N. & R.G. Wetzel. 2000. Allelochemical autotoxicity in the emergent wetland macrophyte *Juncus effuses* (juncaceae). *Am. J. Bot.* 87: 853–860.
- Farooq, M., A. Wahid, N. Kobayashi, D. Fujita & S.M.A. Basra. 2009. Plant drought stress: effects, mechanisms and management. *Agron. Sustain. Dev.* 29:185–212.
- Ferrell, J.A., H.J. Earl & W.K. Vencill. 2004. Duration of yellow nutsedge (*Cyperus esculentus*) competitiveness after herbicide treatment. *Weed Sci.* 52: 24–27.
- Fraenkel, G.S. 1959. The raison d'Etre of secondary plant substances. *Science*. 129: 1466–1470.
- Frankton, G. 1977. *Biology and Chemistry of the Compositae*. Academic Press. New York.
- Gardner, F.P., R.B. Pearce & R.L. Mitchel. 1991. *Physiology of Crop Plant Metabolism*. Freeman, Cooper & Company. San Fransisco. 592 pp.
- Geng, G.D., S.Q. Zhang & Z.H. Cheng. 2009. Effects of different allelochemicals on mineral elements absorption of tomato root. *China Veget.* 4: 48–51.
- Gill, A.S. & J.V.N.S. Prasad. 2000. Allelopathic interactions in agroforestry systems. *In*: S.S. Narwal, R.E. Hoagland, R.H. Dilday & M.J. Reigosa (Eds). *Allelopathy in Ecological Agriculture and Forestry*. Kluwer Academic Publisher. Dharwad, India. 195–207 pp.
- Goodwin, T.W. & E.I. Mercer. 1990. *Introduction to Plant Biochemistry* 2<sup>nd</sup>. Pergamon Press. Saint Louis, Missouri, USA. 677 p.
- Gonzalez, V.M., J. Kazimir, C. Nimbal, L.A. Weston & G.M. Cheniae. 1997. Inhibition of a photosystem II electron transfer reaction by the natural product sorgoleone. *J. Agric. Food Chem.* 45: 1415–142.
- Gonzales, L., X.C. Souto & M.J. Reigoza. 1997. Weed control by *Capsicum annum*. *Allelopath. J.* 4: 101–109.

- Gniazdowska, A. & R. Bogatek. 2005. Allelopathic interactions beetwen plants, multisite action of allelochemicals. *Acta Physiol. Plant.* 27: 395–407.
- Guha, G.D., Sengupta, G.I. Raseneni & A.R. Reddy. 2009. An integrated diagnostic approach to understand drought tolerance in mulberry (*Morus indica* L). *Flora.* 205: 144–151.
- Gupta, O.P. 1984. Scientific Weed Management. Printers and Publisher. New Delhi.
- Halliwell, B. & J.M.C. Gutteridge. 1999. Free Radicals in Biology and Medicine. Oxfod University Press. UK.
- Hall, D.W., V.V. Vandiver & J.A. Ferrell. 2009. Purple nutsedge, *Cyperus rotundus* L. University of Florida : SP37.
- Han, C.M., K.W. Pan, N. Wu, J.C. Wang & W. Li. 2008. Allelopathic effect of ginger on seed germination and seedling growth of soybean and chive. *Sci. Hortic.* 116: 330–336.
- Handayani, T., P. Basunanda, R.H. Murti & E. Sofiari. 2013. Pengujian stabilitas membran sel dan kandungan klorofil untuk evaluasi toleransi suhu tinggi pada tanaman kentang. *J. Hort.* 23: 28–35.
- Handelman, G.J. 2001. The evolving role of carotenoids in human biochemistry. *Nutrition.* 17: 818–822.
- Harborne, J.B. 1980. Plant phenolics. *In*: E.A Belt & B.V. Charwood (Eds.). *Secondary Plant Product.* Springer–Verlag. Berlin. 329–334 pp.
- Harborne, J.B. 1987. Metode Fitokimia. Penuntun Cara Modern Menganalisis Tumbuhan. (Diterjemahkan oleh K. Padmawinata & I. Soediro). ITB. Bandung.
- Harborne, J.B. 2005. Phytochemical Methods – A guide to Modern Techniques of Plant Analysis. 3<sup>rd</sup> Eds. Springer – Verlag. Berlin. 43–45 pp.
- Hardjowigeno, S. 1987. Ilmu Tanah. Akademika Pressindo. Jakarta. 286 p.
- Hariandi, D., D. Indradewa & P. Yudono. 2016. Correlation analysis of yield and yield components of seven soybean cultivars on weed competition. *Int. J. Sci. Res.* 5: 2151–2155.
- Harren, F.J.M. & J. Reuss. 1977. Photoacoustic Spectroscopy. *In*: Encyclopedia of Applied Physics. Trigg (GL) (Eds.). VCH Wenhein. 19: 413–435.
- Hartley, R.D. & D.C. Whitehead. 1973. Phenolics acid in soils and their influence on plant growth and soil microbial processes. *In*: D. Vaughan & R.E. Malcolm (Eds.). *Soil Organic Matter and Biological Activity.* Martinus Nijhhoff/Dr W. Junk Publishers. Netherland. 109–149 pp.
- Heidarzade, A., H. Pirdashti, M.A. Esmaeili & J. Asghari. 2012. Inhibitory activity of allelochemicals on barnyardgrass (*Echinochloa crus-galli* L.) seed and seedling parameters. *World App. Sci. J.* 17: 1535–1540.
- Hendrival, Z. Wirda & A. Azis. 2014. Periode kritis tanaman kedelai terhadap persaingan gulma. *Jurnal Floratek.* 9: 6–13.
- Heywood, V., J. Harborne & B.L. Turner. 1977. Biology and Chemistry of The Compositae. Academic Press. New York.



- Hidajat, O.O. 1985. Morfologi Tanaman Kedelai. *In*: Kedelai. Badan Litbang Pertanian. Puslitbangtan. Bogor.
- Hoagland, R.E., N.D. Teaster & C.D. Boylette. 2013. Bioherbicidal effects of *Myrothecium verrucaria* on glyphosateresistant and-susceptible *Palmer amaranth* biotypes. *Allelopath. J.* 31: 367–376.
- Holm, L.G., D.L. Plucknett, J.V. Pancho & J.P. Herberger. 1991. *The World's Worst Weeds: Distribution and Biology*. Krieger Pub. Co. Malabar, FL, USA. 610 p.
- Hong, N.H., T.D. Xuan, T. Eiji & T.D. Khanh. 2004. Paddy weed control by higher plants from Southeast Asia. *Crop Prot. J.* 23: 255–261.
- Horowitz, M. 1992. Mechanisms of establishment and spreading of *Cyperus rotundus* – the worst weed of warm regions. *Proc. First Int. Weed Cont. Congr.* 1: 94–97.
- Huang, J.H., R. Fu, C.X. Liang, D.F. Dong & X.L. Luo. 2010. Allelopathic effects of cassava (*Manihot esculenta* crantz.) on radish (*Raphanus sativus* L.) and ryegrass (*Lolium perenne* L.). *Allelopath. J.* 25: 155–162.
- Huda-Faujan, N., A. Noriham, A.S. Norrakiah & A.S. Babji. 2009. Antioxidant activity of plants methanolic extracts containing phenolic compounds. *Afr. J. Biotechnol.* 8: 484–489.
- Hussain, M.I., L. Gonzalez & M.J. Reigosa. 2011. Allelopathic potential of *Acacia melanoxylon* on the germination and root growth of native species. *Weed Biol. Manag.* 11: 18–28.
- Hussain, I., N.B. Singh, A. Singh & H. Singh. 2017. Allelopathic potential of sesame plant leachate against *Cyperus rotundus* L. *Ann. Agrar. Sci.* 15: 141–147.
- Hyder, P.W., E.L. Fredricson, R.E. Estell, M. Tellez & R.R. Gibbens. 2002. Distribution and concentration of total phenolics, condensed tannins, and nordihydroguaiaretic acid (NDGA) in creostebush (*Larrea tridentata*). *Biochem. Syst. Ecol.* 30: 905–912.
- Idu, M. & O. Oghale. 2013. Studies on the allelopathic effect of aqueous extract of *Ageratum conyzoides* asteraceae on seedling growth of *Sesamum indicum* L. (pedaliaceae). *Int. J. Sci. Environ. Technol.* 2: 1185–1195.
- Inam B., F. Hussain & B. Farhat. 1987. Allelopathic effects of Pakistani weeds: *Xanthium strumarium* L. *Pak. J. Sci. Ind. Res.* 30: 530–533.
- Inamullah, N. Rehman, N.H. Shah, M. Arif, M. Siddiq & I.A. Mian. 2011. Correlations among grain yield and yield attributes in maize hybrids at various nitrogen levels. *Sarhad J. Agric.* 27: 531–538.
- Inderjit & S. Duke. 2003. Ecophysiological aspect of allelopathy. *Planta.* 217: 529–539.
- Inderjit & K.I. Keating. 1999. Allelopathy: principles, procedures, processes, and promises for biological control. *In*: Sparks DL (ed). *Adv. Agron.* San Diego: Acad. Pr. 67: 141–231.
- Inderjit & K.G. Mukerji. 2005. *Allelochemicals: Biological Control of Plant Pathogens and Disesaes*. Springer. India. 214 p.

- Indradewa, D. 2001. Gatra agronomis dan fisiologiss pengaruh genangan dalam parit pada tanaman kedelai. Disertasi. Universitas Gadjah Mada. Yogyakarta. 302 p. Tidak dipublikasikan.
- Ishikura, Y., Y. Kojima & M. Terazawa. 2001. Effects of phenolic compounds on seed germination of shirakaba birch, *Betula platyphylla* var. japonica. Eurasian J. For. Res. 2: 17–25.
- ISTA (International Seed Testing Associations). 1999. International rules for seed testing. Seed Sci. Technol. 27: 45–48.
- Jabran, K., G. Mahajan, V. Sardana & B.S. Chauhan. 2015. Allelopathy for weed control in agricultural systems. Crop Prot. 72: 57–65.
- Javaid A., S. Shafique, R. Bajwa & S. Shafique. 2004. Effect of aqueous extracts of allelopathic crops on germination and growth of *Parthenium hysterophorus* L. S. Afr. J. Bot. 72: 609–612.
- Jose, S. 2002. Black walnut allelopathy: current state of the science. In: Inderjit & A.U. Malik (Eds.). Chemical Ecology of Plants: Allelopathy in Aquatic and Terrestrial Ecosystems. Basal, Birkhauser-Verlag AG, Swisterland.
- Junaedi, A., M.A. Chozin & K.H. Kim. 2006. Perkembangan terkini kajian alelopati. J. Hayati. 13: 79–84.
- Jung, W.S., K.H. Kim, J.K. Ahn, S.J. Hahn & I.M. Chung. 2004. Allelopathic potential of rice (*Oryza sativa* L.) residues against *Echinochloa crus-galli*. Crop Prot. 23: 211–218.
- Kaisoon, O., S. Siriamornpun, N. Weerapreeyakul & N. Meeso. 2011. Phenolic compounds and antioxidant activities of edible flowers from Thailand. J. Funct. Foods. 3: 88–99.
- Kaisoon, O., I. Konczak & S. Siriamornpun. 2012. Potential health enhancing properties of edible flowers from Thailand. Food Res. Int. 46: 563–571.
- Kale, S., S. Naik & S. Deodhar. 2005. Utilization of *Cosmos sulphureus* Cav. flower dye on wool using mordant combinations. Nat. Prod. Rad. 5: 19–24.
- Kamil, J. 1979. Teknologi Benih 1. Angkasa. Bandung. 227 p.
- Kanchan, S.D. & Jayachandra. 1979. Allelopathic effects of *Parthenium hysterophorus* L. III. inhibitory effects of weed residues. Plant Soil. 53: 37–47.
- Kato, N.H. & T. Ino. 2003. Rice seedlings release momilactone-B into the environment. Phytochemistry. 63: 551–554.
- Kaur, G., M.S. Alamb, Z. Jabbar, K. Javed & M. Athar. 2006. Evaluation of antioxidant activity of *Cassia siamea* flowers. J. Ethnopharmacol. 108: 340–348.
- Kaur, I. & R. Sharma. 2016. Allelopathic effect of *Ageratum conyzoides* on chlorophyll content in the leaves of mungbean. Int. J. Recent Sci. Res. 7: 13296–13297.
- Kementrian Pertanian. 2012. Metode Standar Pengujian Efikasi Herbisida Tahun 2012. Departemen Pertanian. Jakarta. 257 p.

- Khaliq, A., A. Matloob, M.B. Khan & A. Tanveer. 2013. Differential suppression of rice weeds by allelopathic plant aqueous extracts. *Planta Daninha*. 31: 21–28.
- Khanh, T.D., N.H. Hong, D.Q. Nhan, S.L. Kim, I.M. Chung & T.D. Xuan. 2006. Herbicidal activity of *Stylosanthes guianensis* and its phytotoxic components. *J. Agron. Crop Sci.* 192: 427–433.
- Khan R. & M.A. Khan. 2010. Weed control efficiency of bioherbicides and their impact on grain yield of wheat (*Triticum aestivum* L.). *Eur. J. Appl. Sci.* 4: 216–219.
- Kim, J.S., W.K. Shin., T.J. Kim & K.Y. Cho. 1994. Sprouting characteristics and herbicidal responses of purple nutsedge. *Korean J. Weed Sci.* 14: 120–127.
- Kissmann, K.G. & D. Groth. 1999. *Plantas infestantes e nocivas*. 2<sup>th</sup>. Edition. Basf. São Paulo.
- Krishnan, H.B. 2005. Engineering soybean for enhanced sulfur amino acid content. *Crop Sci.* 45: 454–461.
- Kobayashi, K. 2004. Factors affecting phytotoxic activity of allelochemicals in soil. *Weed Biol. Manag.* 4: 1–7.
- Kozlowski, T.T. 1972. *Plant response and control of water balance*. Academic Press, Inc. New York.
- Kong, C. 2004. Two compounds from allelopathic rice accession and their inhibitory activity on weeds and fungal pathogens. *Phytochemistry*. 5: 1123–1128.
- Kumar, D., M.A. Yusuf, P. Singh, M. Sardar & N.B. Sarin. 2014. Histochemical detection of superoxide and H<sub>2</sub>O<sub>2</sub> accumulation in *Brassica juncea* seedlings. <<http://www.bio-protocol.org/>>. (diakses 31 Desember 2018).
- Kupidlowska, E. & R. Bogatek. 2003. Alleopathic potential of sunflower II Ultrastructure changes in germinating white mustard (*Sinapsis alba* L.) seeds treated with water extract from sunflower (*Helianthus annuus* L.) leaves. *Acta Physiol. Plant.* 25: 89–90.
- Kropt, M.J. & L.A.P. Lotz. 1992. System approaches to quantify crop-weed interactions and their application on weed management. *Agric. Sys.* 40: 265–282.
- Kupidlowska, E., B. Bieniak, A. Ruchirawat & A.M. Zobel. 1996. Influence of methyl derivatives of coumarin on mitotic activity and ultrastructure of meristematic cells of *Allium cepa* root tips. *Phytomedic.* 2: 275–281.
- Lestari, E.G. 2006. Hubungan antara kerapatan stomata dengan ketahanan kekeringan pada somaklon padi Gajahmungkur, Towuti, dan IR 64. *Biodiversitas*. 7: 44–48.
- Li, Z.H., Q. Wang, X. Ruan, C.D. Pan & J. De-An. 2010. Phenolics and plant allelopathy. *Molecules*. 15: 8933–8952.
- Lichtenthaler, H.K. 1987. Chlorophyll and carotenoids: pigments of photosynthetic biomembranes. *Methods Enzymol.* 148: 350–382.

- Liliwirianis, N., N.L.W. Musa, W.Z.M.W. Zain, J. Kasim & S.A. Karim. 2011. Preliminary studies of phytochemical screening of ulam and fruit from Malaysia. *E- J. Chem.* 8: 285–288.
- Lin, W.X., K.U. Kim & D.H. Shin. 2000. Rice allelopathic potential and its modes of action on Barnyard grass (*Echinochloa crus-galli*). *Allelopath. J.* 7: 215–224.
- Liu, D.L. & J.V. Lovett. 1993. Biologically active secondary metabolites of barley. II. Phytotoxicity of barley allelochemicals. *J. Chem. Ecol.* 19: 2231–2244.
- Liu, X.F. & X.J. Hu. 2001. Effects of allelochemical ferulic acid on endogenous hormone level of wheat seedling. *Chin. J. Ecol. Agric.* 9: 96–98.
- Macias, F.A., R.M. Olivia, A.M. Simonet & J.C.G. Galindo. 1998. What are allelochemicals?. *In: M. Olofsdotter* (Eds.). *Allelopathy in rice*. International Rice Research Institute. Manila, Philippines. 69–79 pp.
- Macias, F.A., J.M.G. Molinillo, J.C.G. Galindo, R.M. Varela, R.M. Simonet & D. Castellano. 2001. The use of allelopathic studies in the search for natural herbicides. *J. Crop Prod.* 4: 237–255.
- Macias, F.A., A. Oliveros-Bastidas, D. Marin, D. Castellano, A.M. Simonet & J.M. Molinillo. 2005b. Degradation studies on benzoxazinoids. Soil degradation dynamics of (2R)-2-O-beta-D-glucopyranosyl-4-hydroxy-(2H)-1,4-benzoxazin-3(4H)-one (DIBOA-Glc) and its degradation products, phytotoxic allelochemicals from Gramineae. *J. Agric. Food Chem.* 53: 554–561.
- Maiti, P.P., R.K. Bhakat & A. Bhattacharjee. 2008. Allelopathic effects of *Lantana camara* on physiobiochemical parameters of *Mimosa pudica* seeds. *Allelopath. J.* 22: 59–68.
- Maiti, R., P. Satya & A. Ramaswamy. 2012. *Crop Plant Anatomy*. GPI Group. UK.
- Marwat, K.B., M.A. Khan, A. Nawaz & A. Amin. 2008. *Parthenium hysterophorus* L. a potential source of bioherbicide. *Pak. J. Bot.* 40: 1933–1942.
- Mas'ud, H. 2009. Sistem Hidroponik dengan Nutrisi dan Media Tanam Berbeda Terhadap Pertumbuhan dan Hasil Selada Media Litbang Sulteng 2: 131–136.
- Matthews, S & A. Powell. 2006. Electrical conductivity vigour test: physiological basis and use. *Seed Testing International (ISTA)*. 131: 32–35.
- Mattice, J., T. Lavy, B. Skulman & R.H. Dilday. 1998. Searching for allelochemicals in rice control duckweed. *In: M. Olofsdotter*. (Eds.). *Allelopathy in rice*. International Rice Research Institute. Manila, Philippines. 81–98 pp.
- McDonald, M.B.Jr. & D.O. Wilson. 1979. An assessment of the standardizations and ability of the ASA-610 to rapid predict soybean germination. *J. Seed Technol.* 4: 1–12.
- McLaughlin, J.C. & S.M. Smith. 1994. Metabolic regulation of glyoxylate-cycle enzyme synthesis in detached cucumber cotyledons and protoplast. *Plant Physiol. Biochem.* 33: 87–95.

- Meazza, G., B.E. Scheffler, M.R. Tellez, A.M. Rimando, J.G. Romagni & S.O. Duke. 2002. The inhibitory activity of natural products on plant p-hydroxyphenylpyruvate dioxygenase. *Phytochemistry*. 60: 281–288.
- Mercado, B.L. 1979. *Introduction to Weed Science*. SEARCA. Philippines. 291 p.
- Mersie W. & M. Singh. 1978. Allelopathic effects of parthenium (*Parthenium hysterophorus* L.) extract and residue on some agronomic crops and weeds. *J. Chem. Ecol.* 13: 1739–1747.
- Michelet, B. & M. Bountry. 1995. The plasma membrane H<sup>+</sup>-ATPase. A Highly regulated enzyme with multiply physiological functions. *Plant Physiol.* 108: 1–6.
- Min, K., C. Freeman, H. Kang & S.U. Choi. 2015. The regulation by phenolic compounds of soil organic matter dynamics under a changing environment. *Bio. Med. Res. Int.* 1 – 11.
- Moenandir, J. 1990. *Pengantar Ilmu dan Pengendalian Gulma*. Penerbit CV. Rajawali. Jakarta. 182 p.
- Moenandir, J. & Ngadino. 1992. The effect of weed infestation on the critical period of bird pepper (*Capsicum frutescence*). *In: Proceeding Joint Symposium on small Scale Vegetable Production and Horticultural Economics in Developing Countries*. 332–338 pp.
- Moenandir, J. 1993. *Ilmu Gulma Dalam Sistem Pertanian*. Raja Grafindo Persada. Jakarta. 159 p.
- Molish, H. 1937. Der einfluss einer pflanze auf die andere, allelopathie, (influence of one plant and another, 2001). Verlag von Gustav, Jena, Scientific Publishers. Jodhpur. Germany.
- Morais, C.S.B., L.A.S. dos Santos & C.A.V. Rossetto. 2014. Oil radish development agronomic affected by sunflower plants reduces. *Biosci. J.* 30: 117–128.
- Morrison, M.J., H.D. Voldeng & E.R. Cober. 1999. Physiological changes from 58 years of genetic improvement of short-season soybean cultivars in Canada. *Agron. J.* 91: 685–689.
- Moud, A.M. & K. Maghsoudi. 2008. Salt stress effects on respiration and growth of germinated seeds of different wheat (*Triticum aestivum* L.) Cultivar. *World J. Agric. Sci.* 4: 351–358.
- Możdżeń, K. & P. Repka. 2014. Allelopathic influence of aqueous extracts from the leaves of *Morus alba* L. on seed germination and seedling growth of *Cucumis sativus* L. and *Sinapsis alba*. *Mod. Phytomorphol.* 5: 93–99.
- Muscolo, A., M.R. Panuccio & M. Sidara. 2001. The effect of phenols on respiratory enzymes in seed germination: respiratory enzyme activities during germination of *Pinus laricio* seeds treated with phenols extracted from different forest soils. *Plant Growth Regul.* 35: 31–35.
- Namkeleja, H.S., M.T.C. Tarimo & P.A. Ndakidemi. 2014. Allelopathic effects of *Argemone mexicana* to growth of native plant species. *Am. J. Plant Sci.* 5: 1336–1344.



- Nelson, D.W. & L.E. Sommers. 1982. Total carbon, organic carbon and organic matter. *In*: A.L. Page, R.H. Miller & D.R. Keeny (Eds.). Methods of Soil Analysis, Part 2. Chemical and biological properties. Second Edition. Agronomy Monograph No.9. ASA Inc. and SSSA Inc. Madison, Wisconsin, USA. 539–580 pp.
- Netsere, A. & E. Mendesil, 2011. Allelopathic effects of *Parthenium hysterophorus* L. aqueous extracts on soybean (*Glycine max* L.) and haricot bean (*Phaseolus vulgaris* L.) seed germination, shoot and root growth and dry matter production. *J. Appl. Bot. Food Qual.* 84: 219–222.
- Nishida, N., S. Tamotsu, N. Nagata, C. Saito & A. Sakai. 2005. Allelopathic effects of volatile monoterpenoids produced by *Salvia leucophylla*: inhibition of cell proliferation and DNA synthesis in the root apical meristem of *Brassica campestris* seedlings. *J. Chem. Ecol.* 31: 1187–1203.
- Nishimoto, R. 2001. Purple nutsedge tuber sprouting. *Weed Biol. Manag.* 1: 203–208.
- Nobel, P.S. 1999. Plant Physiology, Physiochemical and Environment. 2<sup>nd</sup> Edition. Academic Press. New Sandiego.
- Nurjanah, U. 2013. Kajian Alelokimia Kulit Buah Jengkol Pada Gulma Padi Sawah. Disertasi. Uiversitas Gadjah Mada. Yogyakarta. 231 p. Tidak dipublikasikan.
- Oliveira, D.C, G.L.G. Soares & R.M. Santos Isaias. 2008. Phytotoxicity of the extracts of *Lonchocarpus muehlbergianus* Hassl. (Fabaceae) leaflets and galls on seed germination and early development of lettuce. *Acta Bot. Bras.* 22: 1095–1100.
- Ormaetxe, I.I., R.E. Pedro, A.I. Cesar & B. Manuel. 1998. Oxidative damage in pea plants exposed to water deficit or paraquat. *Plant Physiol.* 116: 173–181.
- Oyun, M.B. 2006. Allelopathic potentialities of *Gliricidia sepium* and *Acacia auriculiformis* on the germination and seedling vigour of maize (*Zea mays* L.). *Am. J. Agric. Biol. Sci.* 1: 44–47.
- Palmgren, M.G. 2001. Plant plasma membran H<sup>+</sup> -ATPase: powerhouse for nutrient uptake. *Annu. Rev. Plant. Mol. Biol.* 52: 817 – 845.
- Patterson, D.T. 1981. Effects of allelopathic chemicals on growth and physiological responses of soyabean (*Glycine max*). *Weed Sci.* 29: 309–326.
- Pawlowski, A., E. Kaltchuk-Santos, C.A. Zini, E.B. Caramao & G.L.G. Soares. 2012. Essential oils of *Schinus terebinthifolius* and *S. molle* (anacardiaceae): mitodepressive and aneugenic inducers in onion and lettuce root meristems. *S. Afr. J. Bot.* 80: 96–103.
- Politycka, B., M. Konzłowska & B. Mielcarz. 2004. Cell wall peroxidases in cucumber roots induced by phenolics allelochemicals. *Allelopath. J.* 13: 29–36.
- Politycka, B. & J. Gmerek. 2008. Effect of ferulic and p-coumaric acids on the activity of hydrolytic enzymes and growth of radicals in germinating seeds of cucumber and pea. *Allelopath. J.* 21: 227–238.

- Poonpaiboonpipat, T., U. Pangnakorn, U. Suvunnamek, M. Teerarak, P. Charoenying & C. Laosinwattana. 2013. Phytotoxic effects of essential oil from *Cymbopogon citratus* and its physiological mechanisms on barnyardgrass (*Echinochloa crus-galli*). Ind. Crop. Prod. 41: 403–407.
- Pratt, D.E. 1992. Natural antioxidants from plant material. In: I.M.T. Huang, C.T. Ho & C.Y. Lee (Eds.). Phenolic compounds in food and their effects on health. American Chemical Society. New York.
- Prihatman, K.. 2000. Kedelai (*Glycine max* L.). Sistem Informasi Manajemen Pembangunan di Pedesaan, Proyek PEMD, BAPPENAS. Jakarta.
- Pujiswanto, H. 2015. Mekanisme dan efektivitas asam asetat sebagai herbisida terhadap gulma pada kedelai. Disertasi. Universitas Gadjah Mada. Yogyakarta. 202 p. Tidak dipublikasikan.
- Purwanto & T. Agustono. 2010. Kajian fisiologis tanaman kedelai pada berbagai kepadatan gulma teki dalam kondisi cekaman kekeringan. J. Agroland. 17: 85–90.
- Putnam, A.R. & C.S. Tang. 1986. The Science of Allelopathy. John Wiley & Sons. New York. 43–56 pp.
- Qasem, J.R. & C.L. Foy. 2001. Weed allelopathy, its ecological impacts and future prospects: a review. J. Crop. Prod. 4: 43–119.
- Radjid, B.S. & R.D. Purwaningrahyu. 2007. Pengendalian Gulma pada Kedelai. Kedelai, Teknik Produksi dan Pengembangan. Puslitbang Tanaman Pangan. Bogor.
- Rafat, A., K. Philip & S. Muniandy. 2010. Antioxidant potential and phenolic content of ethanolic extract of selected Malaysian plants. Res. J. Biotechnol. 5: 16–19.
- Rahayu, E.S. 2003. Peranan penelitian alelopati dalam pelaksanaan low external input and sustainable agriculture (LEISA). <[http://www.rudycr.com/PPS702-ipb/07134/enri\\_s\\_rahayu.htm](http://www.rudycr.com/PPS702-ipb/07134/enri_s_rahayu.htm)> (diakses 31 Desember 2018).
- Rahayuningsih, E., D. Wikansari & H. Setiawan. 2016. Natural colorants from *Cosmos sulphureus* Cav. and *Tagetes erecta* L.: extraction and characterization. AJChE. 16: 44–58.
- Rahman, A.H.M.M., M.S. Alam, S.K. Khan, F. Ahmed, A.K.M.R. Islam & M.M. Rahman. 2008. Taxonomic studies on the family asteraceae (compositae) of the Rajshahi division. Res. J. Agric. Biol. Sci. 4: 134–140.
- Rana, R.M., S.H. Khan, Z. Ali, A.I. Khan & I.A. Khan. 2011. Elucidation of thermotolerance diversity in cotton (*Gossypium hirsutum* L.) using physio-molecular approaches. Genet. Mol. Res. 10: 1156–1167.
- Rauf, A.W. 2006. Alelopati tanaman padi pada sistem padi–kacangan. Disertasi. Universitas Gadjah Mada. Yogyakarta. 174 p. Tidak dipublikasikan.
- Reigosa, M.J., X.C. Souto & L. Gonzales. 1999. Effect of phenolics compound on the germination of six weeds species. Plant Growth Regul. 28: 83–88.
- Reigosa, M.S., L. Gonzalesy, X.C. Souto & J.E. Pastoriza. 2000. Allelopathy in forest ecosystem. In: Junaedi, A., M.A. Chozin, K.H. Kim. Perkembangan terkini kajian alelopati. J. Hayati. 13: 79–84.

- Reiss, C. 1993. Experiment in plant physiology: part I, plant biochemistry, determination of ascorbic acid content of cabbage. Pearson Publ. 292 p.
- Rejekiningrum, P & E. Surmaini. 2014. Penentuan masa tanam berdasarkan indeks kecukupan air dan unsur dominan iklim penentu produksi kedelai di Jawa Timur. Prosiding Seminar Hasil Penelitian Tanaman Aneka Kacang dan Umbi. 316–326 pp.
- Rice, E.L. 1984. Allelopathy. 2<sup>nd</sup> Edition. Acad. Press. Orlando. 353 p.
- Rice, E.L. 1995. Biological Control of Weeds and Plant Diseases, Advances in Applied Allelopathy. Univ of Oklahoma Press. Norman Okla. 439 p.
- Riskitavani, D.V. & K.P. Purwani. 2013. Studi potensi bioherbisida ekstrak daun ketapang (*Terminalia catappa*) terhadap gulma rumput teki (*Cyperus rotundus*). Jurnal Sains dan Seni Pomits. 2: 2337–3520.
- Robinson, T. 1991. The organic constituents of higher plant. 6<sup>th</sup> Eds. (Kandungan organik tumbuhan tinggi). Diterjemahkan oleh Panduwinata K. 1995. ITB. Bandung.
- Rodrigues, A.C. & M.E.M. Estelita. 2009. Morphoanatomy of the stem in Cyperaceae. Acta Bot. Bras. 23: 889–901.
- Ross, C.W. 1974. Plant Physiology Laboratory Manual. Wadsworth. California. 200 p.
- Ross, E.E. 1986. Percepts of succesfull seed storage. In: Mc. Donald M.B. & C.J. Nelson. (Eds.). Physiology of seed deterioration. CSSA Publ. Wisconsin. 11: 1–26.
- Rodney, C., T.N. Kutchen & N.G. Lewis. 2000. Natural products (secondary metabolites). In: B. Buchanan, W. Gruissem & R. Jones (Eds.). Biochemistry & molecular biology of plants. Am. Soc. Plant Physiol. 1250–1318.
- Rubatzky, N.G. & M. Yamaguchi. 1997. World Vegetable 1 : Principle, Production, and Nutritive Values (Sayuran Dunia 1 : Prinsip, Produksi dan Gizi alih bahasa Herison, C. & N. Nikosolihin). Institut Teknologi Bandung. Bandung.
- Rungruang, N., S. Babel & P. Parkpian. 2011. Screening of potential hyoperaccumulator for cadmium from contaminated soil. Desalin. Water Treat. 32: 19–26.
- Saito, X.C., L. Gonzalez & M.J. Reigosa. 2010. Root exudate *Desmodium uncinatum*. Phytochemistry. 7: 904–9080.
- Salisbury, F.B. & C.W. Ross. 1995. Plant Physiology. (Fisiologis tumbuhan: biokimia tumbuhan). ITB. Bandung.
- Sanchez, M., M.J. Peria, G. Revillia & I. Zarra. 1996. Changes in dehydrodiferulic acids and peroxidase activity againts ferulic acids associated with cells walls during growth of *Pinus pinaster* hypocotyl. Plant Physiol. 111: 941–946.
- Santos, P.C., V.H.M. Santos, G.F. Mecina, A.R. Andrade, P.A. Fegueiredoa, V.M.O. Moraes, L.P. Silva & R.M.G. Silva. 2015. Phytotoxicity of *Tagetes erecta* L. and *Tagetes patula* L. on plant germination and growth. S. Afr. J. Bot. 100: 114–121.

- Saparso. 2008. Ekofisiologis tanaman kubis bawah naungan dan pemberian bahan pembenah tanah di lahan pasir pantai. Disertasi. Universitas Gadjah Mada. Yogyakarta. Tidak dipublikasikan.
- Sarmin. 2011. Studi ekstrak daun kenikir sebagai green corrosion inhibitor pada baja karbon dalam larutan 0,5 M  $H_2SO_4$ . Universitas Indonesia. Depok.
- Sangeetha, C. & P. Baskar. 2015. Allelopathy in weed management: a critical review. *Afr. J. Agric. Res.* 10: 1004–1015.
- Sastroutomo, S.S. 1990. Ekologi Gulma. Gramedia Pustaka Utama. Jakarta.
- Saxena, S., K. Sharma, S. Kumar, N.K. Sand & P.B. Rao. 2003. Effect of weed extracts on uptake of P and Zn in wheat varieties. *Allelopath. J.* 11: 201–216.
- Setyawati, N., U. Nurjannah & D.A. Togatorop. 2010. Allelopathic effect of *Wedelia trilobata*, *Ageratum conyzoides*, *Chromolaena odorata* and *Micania micrantha* on green mustard growth. *In: Y. Ramona, M. Pharmawati & Y. Ciawi (Eds.). Proc. Int. Conf on Biosci. and Biotechnol.* Bali 23-24 September 2010.
- Shafique, S, R. Bajwa & S. Shafique. 2011. *Tagetes erectus* L. – a potential resolution for management of *Parthenium hysterophorus* L. *Pak. J. Bot.* 43: 885–894.
- Shimokoriyama, M. & S. Hattori. 1953. Anthochlor pigments of *Cosmos sulphureus*, *Coreopsis lanceolata* and *C. saxicola*. *J. Am. Chem. Soc.* 75: 1900–1904.
- Siagian, W.M. 2012. Efektivitas pemberian kenikir (*Cosmos caudatus* Kunth), terhadap performa, organ limfoid dan profil darah ayam kampung (*Gallus gallus domesticus*). Departemen Ilmu Nutrisi dan Teknologi Pakan. Fakultas Peternakan Repository Institut Pertanian Bogor. 3–4 pp.
- Singh, H.P., D.R. Batish & R.K. Kohli. 2003. Allelopathic interaction and allelochemicals: new possibilities for sustainable weed management. *Crit. Rev. Plant. Sci.* 22: 239–311.
- Singh, A., D. Singh & N.B. Singh. 2009. Allelochemical stress produced by aqueous leachate of *Nicotiana glauca* Viv. *Plant Growth Regul.* 58: 163–171.
- Singh, P.K., R. Singh & S. Singh. 2013. Cinnamic acid induced changes in reactive oxygen species scavenging enzymes and protein profile in maize (*Zea mays* L.) plants grown under salt stress. *Physiol. Mol. Biol. Plants.* 19: 53–59.
- Singleton, V., R. Orthofer & R. Lamuela-Raventós. 1999. Analysis of total phenols and other oxidation substrates and antioxidants by means of folin ciocalteu reagent. *In: L. Packer (Eds.). Oxidants and antioxidants, part A, methods in enzymology.* Academic Press. New York. 152–178 pp.
- Sitompul, S.M. & B. Guritno. 1995. Analisis Pertumbuhan Tanaman. Gadjah Mada University Press. Yogyakarta. 412 p.
- Siquera, J.O., M.G. Nair, R. Hammerschmidt & G.R. Safir. 1991. Significance of phenolic compounds in plant-soil-microbial system. *Crit. Rev. Plant Sci.* 10: 63–69.

- Siregar, A.S., T.A. Siswoyo & B. Sukowardojo. 2013. Karakteristik perubahan protein biji melinjo (*Gnetum gnemon*) pada awal perkecambahan. Berkala Ilmiah Pertanian. 1: 22–24.
- Soedarsan, A., W. Basuki, W. Soemantri & M.A. Rifai. 1985. Pedoman Pengenalan Jenis Gulma Penting pada Tanaman Perkebunan. Departemen Pertanian Direktorat Jendral Perkebunan. Jakarta.
- Soerjani, M. & A.J.G.H. Kostermans. 1987. Weed of Rice in Indonesia. Balai Pustaka. Jakarta. 716 p.
- Soltys D., U. Krasuska, R. Bogatek & A. Gniazdowska. 2013. Allelochemicals as bioherbicides — present and perspectives. *In*: A.J. Price & J.A. Kelto. Herbicides - current research and case studies in use. INTECH. 517–542 pp.
- Souto, X.C., J.C. Bolano, L. Gonzalez & M.J. Reigoza. 2001. Allelopathic effects of tree species on some soil microbial populations and herbaceous plants. Biol. Plant. 44: 269–275.
- Souza, M.C., C.L. do Amarat, H.H. Tozzi & P.L.C.A. Alves. 2013. Germination performance of yellow cosmos: understanding its invasion under tropical conditions. J. Agric. Sci. 5: 56–62.
- Spencer, D.F. & G.G. Ksander. 1997. Dilute acetic acid exposure enhances electrolyte leakage by *Hidrylla verticillata* and *Potamogeton pectinatus* tubers. J. Aquat. Plant Manag. 37: 67–71.
- Stamp, N. 2003. Out of the quagmire of plant defense hypotheses. Q. Rev. Biol. 78: 23–55.
- Steenis, C.G.G.J. Van. 1987. Flora. Pradnya Paramita. Jakarta.
- Sudarmadji, S., Haryono & B. Suhardi. 2007. Analisa Bahan Makanan dan Pertanian. Penerbit Liberty. Yogyakarta.
- Sugiharti, W., Y.A. Trisyono, E. Martono & Witjaksono. 2018. Manfaat bunga *Turnera subulata* dan *Cosmos sulphureus* bagi kehidupan *Anagrus nilaparvatae* (Hymenoptera: Mymaridae). JPTI. 22: 43–50.
- Sukman & Yakub. 2002. Gulma dan Teknik Pengendaliannya. Raja Grafindo Persada. Jakarta.
- Sulistiono, I., Sumardi & A. Purwantoro. 2012. Analisis profil protein pada tahap perkembangan buah kacang tanah (*Arachis hypogaea* (L.). Prosiding Seminar Nasional IX Pendidikan Biologi UNS.
- Sumarno, F. Dauphin, A. Rahman, A. Sumarlin, Santoso, H. Kuntastuti & Harnoto. 1989. Analisis Kesenjangan Hasil Kedelai di Jawa. Bogor. 71 p
- Sunanto, W., H. Sudjadi & N.S. Mulyani. 1989. Penuntun Analisis Tanah dan Air. Pusat Penelitian Tanah. Bogor.
- Sunkar, R. 2010. Plant Stres Tolerance: Methodes and Protocols. Departement of Biochemistry & Molecular Biology. Oklahoma State University. Springer Protocols. 273–280 pp.
- Suparjo. 2010. Analisis bahan pakan secara kimiawi: analisis proksimat dan analisis serat. Fakultas Peternakan Universitas Jambi. Jambi
- Sutopo, L. 2002. Teknologi Benih. PT Raja Grafindo Persada. Jakarta. 236 p.



- Syarifi, P., R. Amirnia, E. Majidi, H. Hadi, M. Roustaii, M. Nakhoda, H.M. Alipoor & F. Moradi. 2012. Relationship between drought stress and some antioxidant enzymes with cell membrane and chlorophyll stability in wheat lines. *Afr. J. Microbiol. Res.* 6: 617–23.
- Takatani, S., T. Hirayama, T. Hashimoto, T. Takahashi & H. Motose. 2015. Absciscic acid induces ectopic outgrowth in epidermal cells through cortical microtubule reorganization in *Arabidopsis thaliana*. *Nature*. 5: 1–12.
- Taiz, L. & E. Zeger. 1991. *Plant Physiology*. Benyamin/Cumming Publishing Company Inc. Publishers. Tokyo. 219–247 pp.
- Taiz, L. & E. Zeger. 2002. *Plant Physiology*. 3<sup>rd</sup> Edition. Sinauer Associates, Inc. Publishers. Massachusetts.
- Tawaha, A.M. & M.A. Turk. 2003. Allelopathic effects of black mustard (*Brassica nigra*) on germination and growth of wild barley (*Hordeum spontaneum*). *J. Agron. Crop Sci.* 189: 298–303.
- Teasdale, J.R. 2003. Principles and practices of using cover crops in weed management system. *In*: Labrada (Eds.). *Weed management for developing countries*. FAO Plant Production and Protection Paper. 169–178 pp.
- Teerarak, M., P. Charoenying & C. Laosinwattana. 2012. Physiological and cellular mechanisms of natural herbicide resource from *Aglaia odorata* Lour. on bioassay plants. *Acta Physiol. Plant.* 34: 1277–1285.
- Tereschuk, M.L., M.V. Riera, G.R. Castro & L.R. Abdala. 1997. Antimicrobial activity of flavonoids from leaves of *Tagetes minuta*. *J. Ethnopharmacol.* 56: 227–232.
- Tilay, A., M. Bule, J. Kishenkumar & U. Anapure. 2008. Preparation of ferulic acid from agricultural wastes: its improved extraction and purification. *J. Agric. Food Chem.* 56: 7644–7648.
- Tjitrosoedirjo, S. Utomo & J. Wiroatmojo. 1984. *Pengelolaan Gulma di Perkebunan*. Gramedia. Jakarta.
- Togatorop, D.A., N. Setyowati & U. Nurjannah. 2010. Studi alelopati *Wedelia triloba*, *Ageratum conyzoides*, *Chromolaena odorata* dan *Mikania micrantha* terhadap pertumbuhan dan hasil sawi. *In*: Marwanto, Hermansyah & N. Setyowati (Eds.). *Pros. Sem. Nas. dan Rapat Tahunan Dekan Bidang Ilmu-Ilmu Pertanian*. Bengkulu 23 – 25 Mei 2010.
- Tomova, B.S., J.S. Waterhouse & J. Doberski. 2005. The effect of fractionated *Tagetes* soil volatiles on aphid production. *Entomol. Exp. Appl.* 115: 153–159.
- Treber, I., R. Balicevic & M. Ravlic. 2015. Assessment of allelopathic effect of pale persicaria on two soybean cultivars. *Herbologia*. 15: 31–35.
- Venkateshwarlu, G. & V. Ravindra. 2001. Mangiferin: An allelopathin from mango (*Mangifera indica* L.) leaves. *Allelopath. J.* 8: 221–224.
- Vasudevan, P., S. Kashyap & S. Sharma. 1997. *Tagetes*: a multipurpose plant. *Biosci. Technol.* 62: 29–35.

- Verma, M. & P.B. Rao. 2006. Allelopathic effect of four weed species extracts on germination, growth and protein in different varieties of *Glycine max* (L.) Merrill. *J. Environ. Biol.* 27: 571–577.
- Verma, N. & S. Sukhla. 2015. Impact of various factors responsible for fluctuation in plant secondary metabolites. *J. Appl. Res. Med. Aroma. Plants.* 2: 105–113.
- Wakjira, M., G. Berecha & B. Bulti. 2005. Allelopathic effects of *Parthenium hysterophorus* extracts on seed germination and seedling growth of lettuce. *Trop. Sci.* 45: 159–162.
- Wang, C.M., H.T. Chen, T.C. Li, J.H. Weng, Y.L. Jhan & S.X. Lin. 2014. The role of pentacyclic triterpenoids in the allelopathic effects of *Alstonia scholaris*. *J. Chem. Ecol.* 40: 90–98.
- Wardhani, D., K.S. Darmanti & R. Budhiastuti. 2018. Allelochemical effect of *Ageratum conyzoides* L. leaf extract on Soybean [*Glycine max* (L.) Merr. Cv Grobogan] growth. *J. Physics.: Conf. Ser.* 1025: 1–8.
- Wat, C.K., T. Johns & G.H.N. 1980. Phototoxic effects and antibiotic activities of plants of the Asteraceae used in folk medicine. *J. Ethnopharmacol.* 2: 279–283.
- Weir, T.L., S.W. Park & J.M. Vivanco. 2004. Biochemical and physiological mechanisms mediated by allelochemicals. *Curr. Opin. Plant Biol.* 7: 472–479.
- Wichittrakarn, P. 2015. Allelopathic Potential of *Tagetes erecta* L.; Its Partially Separation of Active Compounds and Its Mechanism on Seed Germination on *Echinochloa Crus-galli* (L.) Beauv. SICBENS-855.
- Widyatama, C.E., Tohari & R. Rogomulyo. 2012. Periode kritis kedelai hitam (*Glycine max* (L.) Merrill) terhadap gulma. *Veg.* 1: 32–41.
- Wiryanta, B.T.W. 2002. Bertanam Cabai Pada Musim Hujan. Agromedia Pustaka. Jakarta
- Wu, F.Z., K. Pan, F.M. Ma & X.D. Wang. 2004. Effects of cinnamic acid on photosynthesis and cell ultrastructure of cucumber seedlings. *Acta Hort.* Sin. 31: 183–188.
- Wu, Z., L. Yang, R. Wang, Y. Zhang, Q. Shang & L. Wang. 2015. In vitro study of the growth, development and pathogenicity responses of *Fusarium oxysporum* to phthalic acid, an autotoxin from Lanzhou lily. *World J. Microbiol. Biotechnol.* 31: 1227–1234.
- Xuan, T.D., S. Tawata, N.H. Hong, T.D. Khanh & I.M. Chung. 2004. Assesment of phytotoxic action of *Ageratum conyzoides* L. on weeds. *Crop. Prot.* 23: 335–345.
- Yang, G.Q., F.H. Wan, W.X. Liu & J.Y. Guo. 2008. Influence of two allelochemicals from *Ageratina adenophora* Sprengel on ABA, IAA, and ZR contents in roots of upland rice seedlings. *Allelopath. J.* 21: 253–262.
- Yang, C.M., I.F. Chang, S.J. Lin & C.H. Chou. 2004. Effects of three allelopathic phenolics on chlorophyll accumulation of rice (*Oryza sativa*) seedlings: II. stimulation of consumption-orientation. *Bot. Bull. Acad. Sin.* 45: 119–125.

- Yang, Q.H., W.H. Ye, F.L. Liao & X.J. Yin. 2005. Effects of allelochemicals on seed germination. *Chin. J. Ecol.* 24: 1459–1465.
- Youwei, Z., Z. Jinlian & P. Yonghong. 2008. A comparative study on the free radical scavenging activities of some fresh flowers in southern China. *LWT – Food Sci. Technol.* 41: 1586–1591.
- Yoshida, S. 1981. *Fundamental of Rice Crop Science*. International Rice Research Institute. Los Banos, Philippines.
- Yudono, P. 2012. *Perbenihan Tanaman, Dasar Ilmu, Teknologi dan Pengelolaan*. Gadjah Mada University Press. Yogyakarta. 308 p.
- Yu, J.Q. & Y. Matsui. 1997. Effects of root exudates of cucumber (*Cucumis sativus*) and allelochemicals on ion uptake by cucumber seedlings. *J. Chem. Ecol.* 23: 817–827.
- Yu, J.Q., S.F. Ye, M.F. Zhang & W.H. Hu. 2003. Effects of root exudates and aqueous root extracts of cucumber (*Cucumis sativus*) and allelochemicals, on photosynthesis and antioxidant enzymes in cucumber. *Biochem. Syst. Ecol.* 31: 129–139.
- Yu, J.H., Y. Zhang, C.X. Niu & J.J. Li. 2006. Effects of two kinds of allelochemicals on photosynthesis and chlorophyll fluorescence parameters of *Solanum melongena* L. seedlings. *Chin. J. Appl. Ecol.* 17: 1629–1632.
- Yuan, B.Z., M.J. Miller, C.L. Keck, D.B. Zimonjic, S.S. Thorgeirsson & N.C. Popescu. 1998. Cloning, characterization, and chromosomal localization of a gene frequently deleted in human liver cancer (DLC-1) homologous to rat RhoGAP. *Cancer Res.* 58: 2196–2199.
- Zadeh, H.G., S. Lorzadeh & N. Aryannia. 2011. Evaluation weed competitive ability in a corn field in southern west of Iran. *Asian J. Crop Sci.* 3: 179–197.
- Zeng, R.S., S.M. Luo, Y.H. Shi, M.B. Shi & C.Y. Tu. 2001. Physiological and biochemical mechanism of allelopathy of secalonic acid f on higher plants. *Agron. J.* 93: 72–79.
- Zhou, Y.H. & J.Q. Yu. 2006. Allelochemicals and Photosynthesis. *In: Reigosa, M.J., N. Pedrol & L. González. (Eds). Allelopathy: A Physiological Process with Ecological Implications*. Springer. Netherlands. 27- 139 pp.
- Zimdahl, R.L. 1980. *Weed Crop Competition. A review*. The I.P.P.C. Oregon, USA. 195 p.
- Zimdahl, R.L. 2007. *Fundamentals of Weed Science*. Academic Press Elsevier. London.
- Zuo, S.P., G.B. Liu & M. Li. 2012a. Genetic basis of allelopathic potential of winter wheat based on the perspective of quantitative trait locus. *Field Crop Res.* 135: 67–73.
- Zuo, S.P., Y.Q. Ma & L.T. Ye. 2012b. In vitro assessment of allelopathic effects of wheat on potato. *Allelopath. J.* 30: 1–10.
- Zuo, S.P., X.W. Li, Y.Q. Ma & S.Y. Yang. 2014. Soil microbes are linked to the allelopathic potential of different wheat genotypes. *Plant Soil.* 378: 49–58.