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# Daftar Pustaka

Abdel-Kader, H.H., Hussein, A.A., and El-Hindi, M.H. 2004. Postharvest studies on the cut flowers of *Dahlia hybrida* L. II- Effect of preventing latex flow, *pulsing* and holding solutions on vase life and quality. *J. Agric. Sci. Mansoura Univ***.** 29(6): 3409-3423.

Abri, F., Ghasemnezhad, M., Hasansajedi R. and Bakhshi, D. 2013. Effect of ascorbic acid on vase life and petal senescence in cut rose flowers *(Rosa hybrida)* cv. 'Royal Class'. *American-Eurasian J. Agric. & Environ. Sci*. 13 (1): 38-43.

Ali, E. and Hasan, F. 2014. Postharvest quality of *Strelitzia reginae* Ait. cut flowers in relation to 8-hydroxyquinoline sulphate and gibberellic acid treatments. *Scientia Agriculturae*. 1(3): 97-102.

Amiarsi dan Yulianingsih. 2012. Pengaruh Pengemasan dan Penyimpanan terhadap Masa Kesegaran Bunga Mawar Potong. *J. Hort*. 22 (1): 94-101.

Anonim. 2014. Environmental Working Group. http://www/ewg.org/skindeep/ingredient/ 700053/8-HYDROXYQUINOLINESULFATE/ diakses pada tanggal 25 September 2014.

Asrar, Abdul-Wasea A. 2012. Effects of some preservative solutions on vase life and keeping quality of snapdragon (*Antirrhinum majus* L.) cut flowers. *Journal of the Saudi Society of Agricultural Sciences*. 11: 29-35.

Bagheri, H., Lotfalizadeh, H. and Solemani, A.H. 2015. Effect of butanol, propanol and pentanol on the quality of cut Carnation cv. 'Nelson'. *Biharean Biologist*. 9(1): 40-43.

Basaki, T., Faraji, S., Nejat, M.A. and Azimi, M.H. 2013. The effect of chemical treatments on cut flower longevity of *Rosa hybrid* Cultivar Maroussia. *International Journal of Agronomy and Plant Production*. 4(3): 45-453.

Beevers, L. 1966. Effect of gibberellic acid on the senescence of leaf discs of Nasturtium (*Tropaelum majus*). *Plant Physiology*. 41(6) : 1074-1076.

UNIVERSITAS GADJAH MADA
**KOMBINASI HORMON GIBERELIN DAN SENYAWA ANTIBAKTERI TERHADAP PENUNDAAN KELAYUAN BUNGA POTONG MAWAR (Rosa hybrida L. 'Grand Gala')**
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**Universitas Gadjah Mada, 2015 | Diunduh dari http://etd.repository.ugm.ac.id/**

Begri, F., Hadavi, I. and Nabigol, A. 2014. Positive interaction of ethanol with malic acid in postharvest physiology of cut spray carnation 'White Natila'. *Journal of Horticultural Research*. 22(2): 19-30.

Ben-Jaacov, J. 2006. Gibberellic acid spray increased size and quality of Protea 'Pink Ice' Flowers. *Acta Horticulturea*. 716: 135-140. 94

Beura S., Ranvir S., Beura S., and Singh R. 2001. Effect of *pulsing* before storage on postharvest life of gladiolus. *Journal of Ornamental-Horticulture New Series*. 4(2): 91-94.

BPS. 2014. Statistik Hortikultura. Badan Pusat Statistik. Jakarta. [Online]. Tersedia : www.bps.go.id.

Brezee, E., Harrison, E., McHattie, S., Hughes, L., Hickman, R., Hill, C., Kiddle, S., Kim, Y., Penfold, C.A., Jenkins, D., Zhang, C., Morris, K., Jenner, C., Jackson, S., Thomas, B., Tabrett, A., Legaie, R., Moore, J.D., Wild, D.L., Ott, S., Rand, D., Beynon, J., Denby, K., Mead, A., and Buchanan-Wollaston, V. 2011. High-Resolution temporal profiling of transcripts during *Arabidopsis* leaf senescence reveals a distinct chronology of processes and regulation. *The Plant Cell*. 23: 873-894.

Buchanan-Wollaston, V. 2003. The molecular biology of leaf senescence. *J. Exp. Botany*. 48: 181-199.

Butt, S.J. 2005. Extending the vase life of roses (*Rosa hybrida*) with different preservatives. *International Journal of Agriculture & Biology*. 7(1): 97-99.

Chanasut, U., Rogers, H.J., Leverenttz, M.K., Griffiths, G., Thomas, B., Wagstaff, C., and Stead, A.D. 2003. Increasing flower longevity in *Alstroemeria*. *Postharvest Biology and Technology*. 29: 324-332.

Chernys, J.T. and Zeevaart, J.A.D. (2000) Characterization of the 9-cis-epoxycarotenoid dioxygenase gene family and the regulation of abscisic acid biosynthesis in avocado. *Plant Physiol.* 124: 343-353.

Close, D.D. and Beadle, C.L. 2003. The ecophysiology of foliar anthocyanin. *The New York Botanical Review.* 69(2): 149-161.

Colquhoun, A.J. and Hillman, J.R. 1972. The effects of abscisic acid on senescence in leaf discs of radish, *Raphanus sativus* L. *Planta (Berl)*. 105: 213-224.

Costa, L., Vicente, A.R., Civello, P.M., Chaves, A.R. and Martinez, G.A. 2006. UV-C treatment delays postharvest senescence in brocolli florets. *Postharvest Biology and Technology*. 43: 366-373.

UNIVERSITAS GADJAH MADA
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Danayee, E., Mostofi, Y., Moradi, P., and Aziznezhad, R. 2011. *J. Crop. Improv*. 13 (1): 21-29.

Darliah, Kurniasih, D., dan Handayati, W. 2010. Persilangan dan seleksi untuk mendapatkan varietas unggul baru mawar potong berwarna merah. *Jurnal Hortikultura*. 20(2): 103-110.

Devlin, R. 1975. *Plant Physiology. 3rd ed*. D. New York : Van Nostr & Company.

Dewick, P.M. 2009. *Medicinal Natural Products, 3rd Edition*. United Kingdom : John Wiley and Son Ltd.

Dineshbabu M., Jawaharlal M., and Vijayakumar M. 2002. Influnce of holding solutions on the postharvest life of *Dendrobium hybrid* Sonia 17. *South Ind. Hort.* 50(4-6): 451-457.

Dwidjoseputro. 1984. *Pengantar Fisiologi Tumbuhan*. Jakarta : PT. Gramedia.

Eason, J.R. 2002. *Sandersonia aurantiaca:* An evaluation of postharvest *pulsing* solutions to maximise cut flower quality. *New Zealand Journal Of Crop and Horticultural Science*. 30: 273-279.

Elgimabi, M.E.N.E. 2011. Vase life extension of rose cut flowers (*Rosa hybirida*) as influenced by silver nitrate and sucrose pulsing. *American Journal of Agricultural and Biological Science.* 6 (1): 128-133.

Elgimabi, M.N. and Ahmed, O.K. 2009. Effects of bactericides and sucrose-*pulsing* on vase life of rose cut flowers (*Rosa hybrida*). *Journal of Botany Research International*. 2: 164-168.

Elhindi, K.M. 2012. Effects of post harvest pretreatments and preservative solution on vase life longevity and flower quality of sweat pea (*Lathyrus odoratus* L.). *Photosynthetica*. 50(3): 371-379.

Emongor, V.E. 2004. Effect of gibberellic acid on postharvest quality and vase life of Gerbera cut flowers (*Gerbera jamesonii*). *Journal of Agronomy*. 3: 191-195.

Even-Chen, Zeev and Chanan Itai. 1975. The role of abscisic acid in senescence of detached tobacco leaves. *Plant Physiol*. 34: 97-100.

Ewa, S., Rabiza-Wider, J., Wachowicz, M., and Ukaszewska, A.J. 2004. Senescence of cut leaves of *Zantedeschia aethiopica* and *Z.elliottiana*. Part I. chlorophyll degradation. A*cta Sci. Pol. Hortorum. Cultus*. 3(2): 57-65.

UNIVERSITAS GADJAH MADA
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**Universitas Gadjah Mada, 2015 | Diunduh dari http://etd.repository.ugm.ac.id/**

Ezhilmathi, K., Singh, V.P., Arora, A., and Sairam, P.K. 2007. Effect of 5-sulfosalicylic acid on antioxidant activity in relation to vase life of Gladiolus cut flowers.*Plant Growth Regulator*. 51: 99-108.

Fang, Z., Bouwkamp, J.C., and Solomos, T. 1998. Chlorophyllase activities and chlorophyll degradation during leaf senescence in non-yellowing mutant and wild type of *Phaseolus vulgaris* L. *J. Exp. Botany*. 49: 503-510.

Fath, A., Bethke, P., Lonsdale, J. Meza-Romero, R. and Jones, R. 2000. Programmed cell death in cereal aleurone. *Plant Molecular Biology*. 44: 255-266.

Ferrante, A. and Francini, A. 2006. Ethylene dan Leaf Senescence. *Springer*. 51-67.

Fessenden, R.J and Fessenden J.S. 1986. *Organic Chemistry 2nd Edition*. Diterjemahkan oleh Pujaatmaka A.H. 1990. Jakarta : Erlangga.

Field, C. 1985. Leaf-age effects on stomatal conductance, pp. 367-384. In Stomatal Function, eds E. Zeiger, G. Farquhar dan I. Cowan. Stanford : Stanford University Press.

Fletcher, R.A. and Osborne, D.J. 1965. Regulation of protein and nucleic acid synthesis by gibberellin during leaf senescence. *Nature*. 207: 1176-1177.

Francis, F. J. 1982. *Analysis of Anthocyanins in P. Markakis (ed*). *Anthocyanins as Food Colors*. New York : Academic Press.

_____. 2000. Anthocyanins and Betalains : Composition & Application. *Cereal Foods World*. 45 (5): 208-213.

Gan, S. 2007. *Senescence Processes in Plants*. USA : Blackwell Publishing Ltd.

Gebremedhin, H., Bizuayehu T., Ali M. and Dargie T. 2013. Influence of preservative solutions on vase life and postharvest characteristics of rose (*Rosa hybrid*) cut flowers. *Internation Journal for Biotechnology and Molecular Biology Research*. 4(8): 111-118.

Goldthwaite, J.J. and Laetsch, W.M. 1968. Control of senescence in *Rumex* leaf discs by gibberellic acid. *Plant Physiol.* 43(11): 1855-1858.

Gollop R., Even S., Colova-Tsolova V., and Peri A. 2002. Expression ofthe grape dihydroflavonol reductase gene and analysis of itspromoter region. *JexpBot.* 53: 1397–1409.

UNIVERSITAS GADJAH MADA
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**Universitas Gadjah Mada, 2015 | Diunduh dari http://etd.repository.ugm.ac.id/**

Gollop R., Farhi S., and Peri A. 2001. Regulation of the *leucoanthocyanidin dioxygenase* gene expression in *Vitis vinifera*. *Plant Sci.* 161: 579-588.

Gould K.S., McKclvie J., and Markham K.R. 2002. Do anthocyanins functions as antioxidants in leaves? Imaging of $H_2O_2$ in red and green leaves after mechanical injury. *Plant, Cell, & Environment*. 25 : 1261-1269.

Guo, Y., Cai Z. and Gan S. 2004. Transcriptome of *Arabidopsis* leaf senescence. *Plant Cell Environment*. 27: 521-549.

Halevy, A. H. dan Mayak, S. 1979. Senescence and postharvest physiology of cut flower. *Horticultural Review* (ed. Janick, J.). 1: 204-236.

Han, S.S. 1997. Preventing postproduction leaf yellowing in Easter lily. *J. Am. Soc. Hort. Sci*. 122: 869-872.

Handayati, W. 2013. Perkembangan Pemuliaan Mutasi Tanaman Hias di Indonesia. *A Scientific Journal for The Applications of Isotopes and Radiation*. 9(1): 67-80.

Hansen, H. and Grossmann, K. 2000. Auxin-Induced Ethylene Triggers Abscisic Acid Biosynthesis and Growth Inhibition. *Plant Physiol*. 124: 1437-1448.

Hara, M., Karin O., Kyoko H., and Toru K.. 2004. Effects of sucrose on anthocyanin production in hypocotyl of two radish (*Raphanus sativus*) varieties. *Plant Biotechnology*. 21(5): 401-405.

Harborne, J. B. and Grayer, R. J. 1988. *The Anthocyanins in J. B. Harborne (ed). The Flavonoids*. London : Chapman & Hall.

Harborne, J.B. 2006. *Phytochemical methods 2nd edition*, diterjemahkan oleh Padmawinata K. Metode Fitokimia: Penuntun Cara Modern Menganalisis Tumbuhan edisi 2. Bandung : ITB.

Hedden, P., and Proebsting, W.M. 1999. Genetic analysis of gibberellin biosynthesis. *Plant Physiol*. 119: 365-370.

Hee-Ock, B., Saito, T., Tomitaka, Y. and Boo, H.O. 1997. Effect of plant growth regulators on the anthocyanin synthesis of *Perilla ocymoides* L. *Journal of the Korean Society for Horticultural Science*. 38: 9-14.

Heins, R. and Blakely, N. 1980. Influence of ethanol on ethylene biosynthesis and flower senescence of cut carnation. *Sci. Hortic*. 13: 361-369.

Ho, L. C. and Nichols, R. 1975. Effects of ethylene and sucrose on the translocation of dry matter and $^{14}C$ – sucrose in the cut-flower of

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**Universitas Gadjah Mada, 2015 | Diunduh dari http://etd.repository.ugm.ac.id/**

glasshouse carnation during senescence. *Annals of Botany*. 39: 286-296.

Hodges, D.M. 2003. Postharvest oxidative stress in horticultural crops. New York Food Production Press. 284p

Hopkins, W. G. and Hurner, N. P. A. 2009. *Introduction to Plant Physiology, Fourth Edition*. United States of America : John Wiley & Sons, Inc.

Hortensteiner, S. 2006. Chlorophyll degradation during senescence. *Annual Review of Plant Biology*. 57: 55-77.

Hossain, A.B.M.S., Boyce, A.N., Majid, H.M.A., Chandran, S., and Zuliana, R. 2007. Effect of ethanol on the longevity and abscission of bougainvillea flower. *Mj. Int. J. Sci. Tech.*1(2): 184-193.

Hsu YT, and CH Kao. 2010. Abscisic acid-induced leaf senescence of rice seedlings is due to hydrogen peroxide accumulation. *Crop, Environment & Bioinformatics*. 7:243-249.

Hunter, D.A., Ferrante, A., Vernieri, P. and Reid, M.S. 2004. Role of abscisic acid in perianth senescence of daffodil (*Narcissus pseudonarcissus* 'Dutch Master'). *Physiol Plantarum.* 121: 313–321.

Ichimura, K. and Kojima, M. 1999. Effects of temperature, hydroxyquinoline sulphate and sucrose on the vase life of cut rose flower. *Postharvest Biology and Technology*. 15: 33-40.

Ichimura, K. and Hisamatsu, T. 1999. Effect of continuous treatment with sucrose on the vase life, soluble carbohydrate concentrations, and ethylene production of cut snapdragon flowers. *Journal Japan Social Horticulture Science*. 68(1): 61-66.

Ichimura, K., and Hiraya, T. 1999. Effect of silver thiosulfate complex (STS) in combination with sucrose on the vase-life of cut sweet pea flowers. *J. Jpn. Soc. Hort. Sci*. 68: 23-27.

Imani, M.H., Hashemabadi, D., Kaviani, B. and Zarchini, M. 2013. Improving water relations and postharvest quality of cut rose (*Rosa hybrida* L. cv. 'Avalanche') by ethanol. *Annals of Biological Research*. 4(1): 256-259.

Itzhaki, H., Mayak, S. and Borochov, A. 1998. Phosphatidylcholine turnover during senescence of rose petals. *Plant Physiol. Biochem*. 36: 457-462.

Jackman, R.L. and Smith J.L. 1996. Anthocyanin and Betalains. Di dalam Natural Food Colorants. Hendry, G.A.F dan J.D. Houghton (ed.). 1996.

UNIVERSITAS GADJAH MADA
**KOMBINASI HORMON GIBERELIN DAN SENYAWA ANTIBAKTERI TERHADAP PENUNDAAN KELAYUAN BUNGA POTONG MAWAR (Rosa hybrida L. 'Grand Gala')**
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**Universitas Gadjah Mada, 2015 | Diunduh dari http://etd.repository.ugm.ac.id/**

Second Edition. *Blackie Academic and Professionals*. London. 244-294.

Jong Suk, Lee dan Young A, Kim. 1999. Effect of ethanol on vase life and ethylene production of cut 'White Sim' carnation flowers. *Journal of the Korean Society for Horticultural Science*. 40(2): 245-247.

Jordi, W., Stoopen, G.M., Kelepouris, K. dan Van der Krieken, W.M. 1995. Gibberelllin-induced delay of leaf senescence of *Alstroemeria* cut flower stem is not caused by an increase in the endogenous cytokinin content. *Plant Growth regulation*. 14: 121-127.

Kaur, P. And Mukherjee, D. 2013. Senescence regulation by alcohols in cut flowers of *Calendula officinalis* L. *Acta Physiol Plant*. 35: 1853-1861.

Kende, H. 1993. Ethylene biosynthesis. Ann. Review Plant Physiology. *Plant Molecular Biology*. 44: 283-307.

Knee, M. 2000. Selection of biocides for use in floral preservatives. *Postharvest Biology & Technology*. 18, pp. 227-234.

Koning, R.E. 1994. Ethylene (online) https://www.forum.haszysz.com/showthread.php?17977-Etylen, diakses 25 Desember 2013.

Kuiper D., Van Reenen H.S., and Ribot S.A. 1991. Effect of gibberellic acid on sugar transport in to petals of 'Madelon' rose flowers during bud opening. *Acta Hort*. 298: 93-95.

Kumar, N., Srivastava, G.C. and Dixit, K. 2008. Role of sucrose synthase and invertase during petal senescence in rose (*Rosa hybrid* L.). *Journal of Horticultural Science and Biotechnology*. 83: 520-524.

Kwon, H. and Kim, K. 2000. Inhibition of lipoxygenase activity and microorganism growth in cut freesia by *pulsing* treatment. *Journal Korean Society for Hortic. Science*. 41(2): 135-138.

Lambers, H., Chapin III, F.S. and Pons, T.L. 2008. *Plant Physiological Ecology, Second Edition*. New York : Springer.

Lawton, K.A., Raghothama, K.G., Goldsbrough, P.B., and Woodson, W.R. 1990: Regulation of senescence-related gene expression in carnation flower petals by ethylene. *Plant Physiology.* 93: 1370–1375.

Li, J.R., Yu., K., Wei, J.R. Ma, Q., Wang, B.Q. dan Yu, D. 2010. Gibberellin retards chlorophyll degradation during senescence of *Paris polyphylla. Biologia Plantarum.* 54: 395-399.

UNIVERSITAS GADJAH MADA
**KOMBINASI HORMON GIBERELIN DAN SENYAWA ANTIBAKTERI TERHADAP PENUNDAAN KELAYUAN BUNGA POTONG MAWAR (Rosa hybrida L. 'Grand Gala')**
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**Universitas Gadjah Mada, 2015 | Diunduh dari http://etd.repository.ugm.ac.id/**

Liao, L.J., Lin, Y.H., Huang, K.L., Chen, W.S. 2001.Vase life of *Eustoma grandiflorumas* affected by aluminum sulfate. *Botanical Bulletin-Academia Sinica Taipei*. 42: 35-38.

Lutts S., Kinet J.M., and Bouharmont J. 1996. NaCl-induced senescence in leaves of rice (*Oryza sativa* L.) cultivars differing in salinity resistance. *Annual Botany*. 78:389-398.

Mackay, W.A., Sankhla, N. and Davis, T.D. 2015. Gibberellic acid and sucrose delay senescence of cut *Lupinus densiflorus* benth flowers. *Research Gate*. 104-106.

Mangave, B.D., Singh, A. and Mahatma, M.K. 2013. Effect of different plant growth regulators and chemicals spray on post harvest physiology and vase life of *Heliconia inflorescence* cv. Golden Torch. *Plant Growth Regul*. 69:259-264.

Markakis, P. 1982. *Anthocyanins as Food Additives in P. Markakis (ed). Anthocyanins as Food Colors*. New York : Academic Press.

Marousky, F.J. 1972. Water relations, effects of floral preservatives onbud opening and keeping quality of cut flowers. *Hortic. Sci*. 7: 114-116.

Marschner, H. 2002. *Mineral Nutrition of Higher Plants, Second Edition*. USA : Academic Press.

Martinez, G.A., Civello, P.M., Chaves, A.R., and Anon, M.C. 2001. Characterization of peroxidase-mediated chlorophyll bleaching in strawberry fruit. *Phytochemistry*. 58: 379-387.

Matile, P., Hortensteiner, S., Thomas, H., and Krautler, B. 1996. Chlorophyll breakdown in senescent leaves. *Plant Physiol*. 112: 1403-1409.

Mayak, S., Halevy, A.H., Sagie, A., Baryoseph, A. and Bravdo, B. 1974. The water balance of cut rose flower. *Physiol Plant*. 31:15-22.

Mizukami, H., Tomita, K., Ohashi, H. and Hiraoka, N. 1988. Anthocyanin production in callus cultures of roselli (*Hibiscus sabdariffa* L.). *Plant Cell Rep*. 7: 553-556.

Monselise, S.P. and Halevy, A.H. 1962. Effects of gibberellin and Amo-1618 on growth, dry-matter accumulation, chlorophyll content and peroxidase activity of Citrus seedlings. *American Journal of Botany*. 49(4): 405-412.

Montero, T., Molla, E., Martin-Cabrejas, M. and Lopez-Andreu, F.J. 1998. Effect of gibberellic acid ($GA_3$) on strawberry PAL (*Phenylalanine*

UNIVERSITAS GADJAH MADA
**KOMBINASI HORMON GIBERELIN DAN SENYAWA ANTIBAKTERI TERHADAP PENUNDAAN KELAYUAN BUNGA POTONG MAWAR (Rosa hybrida L. 'Grand Gala')**
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**Universitas Gadjah Mada, 2015 | Diunduh dari http://etd.repository.ugm.ac.id/**

*Ammonia-Lyase*) and TAL (*Tyrosine Ammonia-Lyase*) enzyme activities. *Journal of Science, Food and Agriculture*. 77: 230-234.

Nagata T., Todoriki, S., Masumizu, T., Suda, I., Furuta, S., Du, Z., and Kikuchi, S. 2003. Levels of active oxygen species are controlled by ascorbic acid and anthocyanins in *Arabidopsis*. *Journal of Agricultural Food Chemistry*. 51: 2992-2999.

Nair, S.A., Singh, V. and Sharma, T. 2003. Effect of chemical preservatives on enhancing vase-life of gerbera flowers. *Journal of Tropical Agriculture*. 41: 56-58.

Nematollah, S.R., Dogolsar, K., and Nozari, S. 2010. *First Proc. Natl. Sym. Agric. Sustainable Dev*. 1-4.

Nooden L.D. 1988. Abscisic acid, auxin and other regulators of senescence. 329-368. In: Senescence and aging in plants. L.D. Nooden (ed.) Academic Press Inc., San Diego : USA.

Nowak, J., Rudnicki, R.M., and Duncan, A.A. 1990. *Post harvest handling and storage of cut flowers, florist greens and potted plants*. Seattle : Timber Press.

O'Donoghue, E. M., Somerfield, S. D. and Heyes, J. A. 2002. Organization of cell walls in *Sandersonia aurantiaca* floral tissue. *Journal of Experimental Botany*. 53(368): 513-523.

O'Donoghue, E.M. 2006. Flower petal cell wall: changes associated with flower opening and senescence. *New Zealand Journal of Foresty Science*. 36(1): 130-144.

O'Donoghue, E.M., Eason, J.R., Somerfield, S.D. and Ryan, D.A. 2005: Galactosidases in opening, senescing and water-stressed *Sandersonia aurantiaca* flowers. *Functional Plant Biology.* 32: 911–922.

O'Neill, S.D. 1997. Pollination regulation of flower development. *Annual Review of Plant Physiology and Plant Molecular Biology*. 48: 547–574.

Opik, H. and Rolfe, Stephen A. 2005. *The Physiology of Flowering Plants, 4th Edition*. United States of America : Cambridge University Press.

Paulin, A. 1986. Influence of exogenous sugars on the evaluation of senescence parometers of petals. *Acta Hort*. 181: 183-193.

Podd, L.A. and Staden, J.V. 2002. Physiological response and extension of vase life of cut carnation flowers treated with ethanol and acetaldehyde.I.Chlorophyll content and carbohydrate status. *Plant Growth Regulation.* 38: 99-105.

UNIVERSITAS GADJAH MADA
**KOMBINASI HORMON GIBERELIN DAN SENYAWA ANTIBAKTERI TERHADAP PENUNDAAN KELAYUAN BUNGA POTONG MAWAR (Rosa hybrida L. 'Grand Gala')**
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**Universitas Gadjah Mada, 2015 | Diunduh dari http://etd.repository.ugm.ac.id/**

Podd, L.A. and Staden, J.V. 2004. The role of ethanol and acetaldehyde in flower senescence andfruit ripening. *J. Plant Growth Regul.* 26: 183-189.

Podd, L.A., P.N. Hilss and J. Van Staden. 2002. Physiological response and extension of vase life of cut carnation flowers treated with ethanol and acetaldehyde.II.Protein content and enzyme activity. *Plant Growth Regulation.* 38: 107-117.

Prashanth, P. and Chandrasekhar, R. 2007. Effect of biocide in vase solution on scape bending and senescence in cut flower of Gerbera (*Gerbera jamesonii* Bolus Ex. Hook). *Journal of Ornamental Horticulture*. 10(3): 137-142.

Premawardena, P.S., Peiris, B.C.N. and Peiris, S.E. 2000. Effects of selected post-harvest treatments on vase life of cut-flower gladiolus (*Gladiolus grandiflorus*). *Tropical Agricultural Research*. 12: 325-333.

Pun and Kumar, U. 2000. Role of ethanol in inhibition of climacteric senescence in carnation (*Dianthus caryophyllus* L.) cut flowers. *Plant Physiology*.

Pun, U., Rowarth, J., Barnes, M., and Heyes, J. 2001. The role of ethanol or acetaldehyde in the biosynthesis ofethylene in carnation (*Dianthus caryophyllus* L.) cv. Yellow candy. *Postharvest Biol. Technol*. 21: 235-239.

Pun, U., Rowe, R., Rowarth, J., Barnes, M., Dawson, C. and Heyes, J. 1999. Influence of ethanol on climactericsenescence in five cultivars of carnation. *New Zealand Journal of Crop and Horticultural Science*. 27: 69-77.

Quirino, B.F., Noh, Y.S., Himelblau, E. and Amasino, R.M. 2000. Molecular aspects of leaf senescence. *Trends Plants Science*. 5: 278-282.

Raifa, A.H., Hemmat, K.I.K., Hala, M.S.E. and Mervat, S.S. 2005. Increasing the active constituents of sepals of Roselle (*Hibiscus sabdariffa* L.) plant applying gibberellic acis and bezyladenine. *Journal of Applied Sciences Research*. 1(2) : 137-146.

Reece, J.B., Urry, L.A., Cain, M.L., Wasserman, S.A., Minorsky, P.V. and Jackson, R.B. 2011. *Campbell Biology – 9th Edition*. United States of America : Pearson Education Inc.

Rosenvasser S., Mayak, S., and Friedman H. 2006. Increase in reactive oxygen species (ROS) and in senescence-associated gene transcript (SAG) levels during dark-induced senescence of *Pelargonium* cuttings, and the effect of gibberellic acid. *Plant Sci*. 170: 873

UNIVERSITAS GADJAH MADA
**KOMBINASI HORMON GIBERELIN DAN SENYAWA ANTIBAKTERI TERHADAP PENUNDAAN KELAYUAN BUNGA POTONG MAWAR (Rosa hybrida L. 'Grand Gala')**
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**Universitas Gadjah Mada, 2015 | Diunduh dari http://etd.repository.ugm.ac.id/**

Rubinstein, B. 2000. Regulation of cell death in flower petals. *Plant Molecular Biology*. 44: 303–318.

Rukmana, R. 1995. *Mawar*. Yogyakarta : Kanisius.

Sabehat, A. and Zieslin, N. 1994. $GA_3$ effects on post-harvest alterations in cell membranes of rose (*Rosa hybrida*) petals. J. *Plant Physiol*. 144: 513-517.

Sadeghinasab, M. 2010. Effect of ethanol and methanol on the preservation of cut Carnation (*Dianthus caryophyllus* L.). MSc thesis, Guilan University, Agriculture Faculty, 195p.

Saks, Y. and van Staden, J. 1993. Evidence fot the involvement of gibberellins in developmental phenomena associated with carnation flower senescence. *Plant Growth Regulation*. 12: 105-110.

Saks, Y., van Staden, J. and Smith, M.T. 1992. Effect of gibberellic acid on carnation flower senescence: evidence that the delay of carnation flower senescence by gibberelic acid depens on the stage of flower development. *Plant Growth Regulation*. 11: 45-51.

Salisbury, F.B. and Ross, C.W. 1995. *Fisiologi Tumbuhan Jilid III*. Terjemahan Diah R., Lukman dan Sumaryono Bandung : ITB.

Santoso, B.S. 2011. *Penanganan Pascapanen Bunga Potong dan Tanaman Hias Pot*. Universitas Mataram.

Satoh, S., Shibuya, K., Waki, K., and Kosugi, Y. 2005. Mechanism of senescence in Carnation flowers. *Acta Horticulturae*. 669: 191-198.

Sestak, K. 1977. Photosynthetic characteristic during ontogenesis of leaves. 3 Photosystems, components of electron transport chain, and photophosphorylastion. *Photosynthetica*. 11 : 449-474.

Shiva, N.T., Hatamzade, A., Bakhshi, D., Rasouli, M. and Ghasemnezhad, M. 2014. The effect of gibberellic acid treatment at different stages of inflorescence development on anthocyanin synthesis in Oriental Hybrid Lily var. 'Sorbbone'. *Agricultural Communications*. 2(1): 49-54.

Singh, A., Jitendra, K. and Pushpendra, K. 2008. Effect of plant growth regulators and sucrose on post harvest physiology, membrane stability and vase life of cut spikes of gladiolus. *Plant Growth Regul*. 55: 221-229.

Sinha S.K., Srinivatsa H.S. and Tripathi R.D. 1993. Influence of some growth regulators and cations on inhibition of chlorophyll biosynthesis by lead in Maize. *Bull. Env. Contamin. Toxic.* 51: 241-246.

UNIVERSITAS GADJAH MADA
**KOMBINASI HORMON GIBERELIN DAN SENYAWA ANTIBAKTERI TERHADAP PENUNDAAN KELAYUAN BUNGA POTONG MAWAR (Rosa hybrida L. 'Grand Gala')**
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**Universitas Gadjah Mada, 2015 | Diunduh dari http://etd.repository.ugm.ac.id/**

Skutnik, E., Rabiza-wider, J., Wachowicz, M., and Łukaszewska, A.J. 2004. Senescence of cut leaves of *Zantedeschia aethiopica* and *Z. elliottiana*. Part III. The reducing sugars content. *Acta Scientiarum Polonorum, Hortorum Cultus*. 3: 219-227.

Soad, M.M., Ibrahim, L., Taha, S. and Rawia, A.E. 2011. Extending postharvest life and keeping quality of Gerbera cut-flowers using some chemical preservatives. *Journal of Applied Sciences Research*. 7(7): 1233-1239.

Solfanelli, C., Alessandra P., Elena L., Amedeo A., and Pierdomenico P. 2006. Sucrose-specific induction of the anthocyanin biosynthetic pathway in *Arabidopsis*. *Plant Physiology*. 140: 637-646.

Srivastava, L.M. 2002. *Plant Growth and Development*. Canada : Academic Press.

Steinitz, B. 1982. Role of sucrose in stabilization of cut gerbera- flowers stalks. *Gartenbouwssenchaft*.47(2): 77-81.

Sun, T. and Gubler, F. 2004. Molecular mechanism of gibberellin signaling in plants. *Annual Review Plant Biology*. 55: 197-223.

Sutharut, J. and Sudarat, J. 2012. Total anthocyanin content and antioxidant activity of germinated colored rice. *International Food Research Journal*. 19(1): 215-221.

Suyanti. 2002. Teknologi pascapanen bunga sedap malam. *Jurnal Litbang Pertanian*. 21(1) : 24-31.

Sven, V., and Jose, J.V.G. 2004. Sucrose loading decreases ethyleneresponsiveness in carnation (*Dianthus caryophyllus* cv. White Sim) petals. *Postharvest Biol. Technol*. 31: 305-312.

Taiz, L. and Zeiger. E. 2002. *Plant Physiology, 3rd Edition.* Massachusetts : Sinauer Associates, Inc. Publishers.

Thimann, K.V. 1985. The senescence of detached leaves of *Tropaelum*. *Plant Physiol*. 1107-1110.

Thomas, A., McKeon, J.C.F.M and Shang-Fa Yang. 1995. Biosynthesis and metabolism of ethylene. *Plant Hormones*. 118-139.

Thomas, H. 2012. Tansley Review: Senescence, Ageing, and Death of the Whole Plant. *New Phytologist*. 197: 696-711.

Thompson, B.G. and Lake, B.H. 1987. The effect of radiation on the long term productivity of a plant based CELSS. *Adv. Space Res*. 7: 133-140.

UNIVERSITAS GADJAH MADA
**KOMBINASI HORMON GIBERELIN DAN SENYAWA ANTIBAKTERI TERHADAP PENUNDAAN KELAYUAN BUNGA POTONG MAWAR (Rosa hybrida L. 'Grand Gala')**
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**Universitas Gadjah Mada, 2015 | Diunduh dari http://etd.repository.ugm.ac.id/**

Timberlake, C.F. and Bridle, P. 1983. Colour in beverages. In : Williams, A.A.; Atkin, R.K. (Eds.): Sensory quality in food and beverages, definition, measurement, control. Ellis Horwood Ltd. Chichester.

Timberlake, C.F. and P. Bridle. 1997. *The Anthocyanins in J. Walford (ed). Developments in Food Colors*. London : Applied Science Publishers LTD.

Tranggono. 1990. *Bahan Tambahan Pangan (Food Additives).* PAU Pangan & Gizi. Universitas Gadjah Mada. Yogyakarta.

Tripathi, S.K. 2007. Review: Integrated Signaling in Flower Senescence. *Plant Signaling & Behavior*. 2(6): 437-445.

Trippi, V. and Thimann, K.V. 1983. The exudation of solutes during senescence of oat leaves. *Physiol Plant*. 58: 21-28.

Tsegaw, T., Shimeles T. and Glenn H. 2011. Influence of *pulsing* biocides and preservative solution treatment on the vase life of cut rose (*Rosa hybrida* L.) varieties. *Ethiop. J. Appl. Sci. Technol.* 2(2): 1-16.

Tsukaya H., Ohshima T., Naito S., Chino M., and Komeda Y. 1991. Sugar-dependent expression of the CHS-A gene for *chalconesynthase* from petunia in transgenic *Arabidopsis. PlantPhysiol*. 97: 1414-1421.

van Doorn, W.G. 2004. Is petal senescence due to sugar starvation? *Plant Physiology*. 134: 35-42.

van Doorn, W.G. 1997. Water relations of cut flowers. *Hort. Rev*. 18: 1-85.

Van Meetern, U., W. Van Iberen, J. Nijsse, and K. Keijzer. 2001. Processes and xylem antimicrobial properties involved in dehydration dynamics of cut flowers. *Acta Hort.* 543: 207-211.

Vargas, D.F., A.R. Jimenez and O. Paredes-Lopez. 2000. natural pigments: carotenoids, anthocyanins, and betalains-characteristic, biosynthesis, processing, and stability. *Critical Reviews in Food Science and Nutrition*. 40(3): 173-289.

Verlinden, S. and Garcia, J.J.V. 2004. Sucrose loading decreases ethylene responsiveness in carnation (*Dianthus caryophyllus* cv. White Sim) petals. *Postharvest Biol. Tech*. 31: 305-312.

Vos, J. and Oyarzun P.J. 1987. Photosynthesis and stomatal conductance of potato leaves – effects of leaf age, irradiance, and leaf water potential. *Photosynthesis Research*. 11: 253-264.

UNIVERSITAS GADJAH MADA
**KOMBINASI HORMON GIBERELIN DAN SENYAWA ANTIBAKTERI TERHADAP PENUNDAAN KELAYUAN BUNGA POTONG MAWAR (Rosa hybrida L. 'Grand Gala')**
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**Universitas Gadjah Mada, 2015 | Diunduh dari http://etd.repository.ugm.ac.id/**

Waithaka, K., Dodge, L.L. and Reid M.S. 2001. Carbohydrate traffic during opening of gladiolus florets. *J. Horticulture Science Biotechnology*. 76: 120-124.

Weiss, D. 2000. Regulation of flower pigmentation and growth: multiple signaling pathways control anthocyanin synthesis inexpanding petals. *Physiol Plant.* 110: 152-157.

Weiss, D., R. Van Blokland, J.M. Kooter and A.J. Vim- Tunen. 1992. Gibberellic acid regulates chalcone synthesis gene transcription in the corolla of *Petunia hybrida. Plant Physiology*. 98: 191-197.

Wijaya S.I., Widjanarko B.S, T. Susanto. 2001. Ekstraksi dan karakterisasi pigmen dari kulit buah rambutan (*Nephelium lappaceum*) var. Binjai. BIOSAIN. 1(2). Universitas Brawijaya Malang.

Wingler, A., von Schaewen, A. and Leegood, R.C. 1998. Regulation of leaf senescence by cytokinin, sugars, and light. *NCBI (Plant Physiology)*. 116(1): 329–335.

Winkel-Shirley, B. 2001. Flavonoid Biosynthesis. A Colorful Model for Genetics Biochemistry, Cell Biology, and Biotechnology. *Plant Physiol*. 126: 485-493.

Wiraatmaja, I.W., Astawa, I.N.G. dan Devianitri, N.N. 2007. Memperpanjang kesegaran bunga potong krisan (*Dendranthema grandifora* Tzvelev) dengan larutan perendam gula dan asam sitrat. *Agritrop*. 26(3): 129-135.

Wood A. and Pleg L.G. 1974. Alteration of liposomal membrane fluidity by gibberellic acid. *Plant Physiol*. 1(1): 31-40.

Wu, M.J., Zacarias, L., Saltveit, M.E., and Reid, M.S. 1992. Alcohols and carnation senescence. *Hort. Science* 27:136-138.

Xu, Y. and Hanson, M.R. 2000. Programmed cell death during pollination-induced petal senescence in petunia. *Plant Physiology*. 122: 1323-1333.

Yam, Kit L. and Lee, Dong Sun. 2012. *Emerging Food Packaging Technologies: Principles and Practice*. UK: Woodhead Publishing.

Yamada, T., Takatsu, Y., Manabe, T., Kasumi, M. and Marubashi, W. 2003. Suppressive effect of trehalose on apoptotic cell death leading to petal senescence in ethylene insensitive flowers of gladiolus. *Plant Science*. 164: 213-221.

UNIVERSITAS
GADJAH MADA
**KOMBINASI HORMON GIBERELIN DAN SENYAWA ANTIBAKTERI TERHADAP PENUNDAAN KELAYUAN BUNGA POTONG MAWAR (Rosa hybrida L. 'Grand Gala')**
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**Universitas Gadjah Mada, 2015 | Diunduh dari http://etd.repository.ugm.ac.id/**

Yamasaki, H., Uefuji, H. dan Sakihama, Y. 1996. Bleaching of the red anthocyanin induced by superoxide radical. *Archives of Biochemistry and Biophysics*. 332: 183-186.

Yamauchi, Y., Ogawa, M., Kuwahara, A., Hanada, A., Kamiya, Y. and Yamaguchi, S. 2004. Activation of gibberellin biosynthesis and response pathways by low temperature during imbibition of *Arabidopsis thaliana* seeds. *Plant Cell.* 16: 367-378.

Yang, S.F. and Hoffman, N.E. 1984. Ethylene biosynthesis and its regulation in higher plants. *Ann. Review Plant Physiology*. 35: 155-189.

Yulianingsih dan Amiarsi, D. 2004. Pengaruh Larutan Kimia untuk Mempertahankan Kesegaran Bunga Mawar Potong. *Prosiding Seminar Nasional Florikultura*, Bogor, 4-5 Agustus 2004.

Zwack, P.J. and Roshatte, A.M. 2013. Cytokinin inhibition on leaf senescence. Mini review. *Plant Signaling & Behavior*. 8: 7.