



## DAFTAR PUSTAKA

- Adetogun, G.E. and Alebiowu, G. 2009. Properties of *Delonix regia* seed gum as a novel tablet binder. *Acta Poloniae Pharmaceutica-Drug Research* 66(4):433-438
- Adje, F., Lozano, Y.F. Meudec, E., Lozano, P., Adima, A., N'zi, G.A. and Gaydou, E.M. 2008. Anthocyanine characterization of pilot plant water extract of *Delonix regia* flowers. *Molecules* 13: 1238-1245
- Ajiboye, A.A., Agboola, D.A., Atayese, M.O. and Kadiri, M. 2009. Some aspect of dormancy studies and vitamin D content of four tree seed species. *Eur. J. Biol. Sci.* 1(3):23-27
- Ajiboye, A.A. 2010. Dormancy and seed germination in *Tamarindus indica* (L.). *The Pasific J. Sci. Tech.* 11(2):463-470
- Algan, G., and Buyukkartal, H.N.B. 2000. Ultrastructure of seed coat development in the natural tetraploid *Trifolium pratense* L. *J. Agron. Crop. Sci.* 184:205-213
- Angiosperm Phylogeny Group (APG). 1998. An ordinal classification for families of flowering plants. *Ann. of the Miss. Bot. Gard.* 85:531-553
- Anonim. 2015. *The IUCN Red List of Threatened Species*. ([www.iucnredlist.org](http://www.iucnredlist.org) 2010.4). Diakses tanggal 9 Januari 2015.
- Amri, E. 2010. The effects of pre-sowing seed treatments on germination of snake bean (*Swartzia madagascariensis*): A reported medicinal plant. *Res. J. Agr. and Bio. Sci.* 6(4):557-561.
- Amusa, T.O. 2011. Effects of three pre-treatment techniques on dormancy and germination of seeds of *Afzelia africana* (Sm. Ex pers). *J. Hort. and For.* 3(4): 96-103
- Argel, P.J. and Paton, C.J. 1999. Overcoming legume hardseededness. In D.S. Loch and J.E. Ferguson (Eds.) *Forage Seed Production: Tropical and Subtropical Species* Vol.2, pp.247-265.
- Arora, A., Sen, R., and Singh, J. 2010. Fatty acid composition of *Delonix regia* (gulmohar) seed oil from arid zone of Rajasthan. *J. Ind. Council Chem.* Vol. 27 No.2 pp.150-152



- Ates, E. 2011. Influence of some hardseededness-breaking treatment on germination in Persian clover (*Trifolium resupinatum* ssp. *Typicum* Fiori et Paol) seeds. *Rom. Agr. Res.* No. 28.
- Banik, M., Bourgault, R., and Bewley, J.d. 2001. Endo- $\beta$ -mannanase is present in an inactive form in ripening tomato fruits of the cultivar Walter. *J. of Exp. Bot.* 52 (354):105-111
- Baskin, C.C. and Baskin, J.M. 1998. *Seeds, ecology, biogeography, and evolution of dormancy and germination*. San Diego : Academic Press.
- Baskin, J.M., Baskin, C.C. and Li, X. 2000. Taxonomy, anatomy, and evolution of physical dormancy in seeds. *Plant. Spe. Bio.* 15:139-152
- Baskin, C.C. and Baskin, J.M. 2008. Advaces in understanding seed dormancy at the whole-seed level: an acological, biogeographical, and phylogenetic perspective. *Acta Botanica Yunnanica* 30(3):279-294
- Baskin, C.C. 2003. Breaking physical dormancy in seeds: focusing on the lens. *New Phy.* 158: 229-232
- Bassel, G.W., Mullan, R.T., and Bewley, J.D. 2006. *ABI3* expression ceases following, but not during, germination of tomato and *Arabidopsis* seeds. *J. of Exp. Bot.* 57(6):1291-1297
- Bazin, J., Batilla, D., Dussert, S., El-Maarouf-Bouteau, H., and Billy, C. 2011. Role of relative humidity, temperature, and water status in dormancy alleviation of sunflower seeds during dry after-ripening. *J. of Exp. Bot.* 62 (2): 627-640
- Beck, E., and Ziegler, P. 1989. Biosynthesis and degradation of starch in higher plants. *Annu Rev Plant Physiol Plant Mol Biol* 40:95–117.
- Bentsink, L. and Koornneef, M. 2008. Seed dormancy and germination. *The Arabidopsis Book*, 6:1-18
- Berger, F. 1999. Endosperm development. *Curr. Opin. Plant Biol.* 2:28-32
- Berger, F., Grini, P.E., and Schnittger, A. 2006. Endosperm: an integrator of seed growth and development. *Curr. Op. Plant Bio.* 9:664-670
- Bessler, B. 1997. The use of 6-benzilaminopurine for rapid multiplication of tillandsias. *HortScience* 32(2):256-258
- Betancur-Ancona, D., Pacheco-Aguirre, J., Castellanos-Ruelas, A., and Chel-Guerrero, L. 2011. Microencapsulation of papain using carboxymethylated



flamboyant (*Delonix regia*) seed gum. *Inn. Food Sc. and Em. Tech.* 12:67-72

Bewley, J.D. and Black, M. 1987. *Physiology and Biochemistry of Seeds*. Springer-Verlag New York.

Bewley, J.D. and Black, M. 1994. *Seeds: physiology of development and germination*. Plenum Press, New York.

Bewley, J.D. 1997. Seed germination and dormancy. *The Plant Cell* vol. 9: 1055-1066.

Bewley, J.D., Banik, M., Bourgault, R., Feurtado, J.A., Toorop, P., and Hilhorst, H.W.M. 2000. Endo- $\beta$ -mannanase activity increases in the skin and outer pericarp of tomato fruits during ripening. *J. Exp. Bot.* 51(344):529-538

Bewley, J.D. and Reid, J.S.G. 1985. Mannans and glucomannans In : Dey, P.M. and Dixon, R.A. (eds.) *Biochemistry of Storage Carbohydrates in Green Plants*. London : Academic Press, 289-304

Bialek, K., and Cohen, J.D. 1989. Free and conjugated indole-3-acetic acid in developing bean seeds. *Plant Physiol.* 91, 398–400.

Bialek, K., Michalczuk, L., and Cohen, J.D. 1992. Auxin biosynthesis during seed germination in *Phaseolus vulgaris*. *Plant Physiol.* 100, 509–517

Borisjuk, L., Rolletscheck, H., Wobus, U., and Weber, H. 2003. Differentiation of legume cotyledons as related to metabolic gradients and assimilate transport into seeds. *Journal of Experimental Botany* 54(382):503-512

Brady, S.M. and McCourt, P. 2003. Hormone cross-talk in seed dormancy. *J. of Plant Growth Reg.* 22:25-31

Brady, S.M., Sarkar, S.F., Bonetta, D., and McCourt, P. 2003. The ABSCISIC ACID INSENSITIVE 3 (ABI3) gene is modulated by farnesylation and is involved in auxin signaling and lateral root development in *Arabidopsis*. *Plant J.* 34, 67–75

Buckeridge, M.S., Dietrich, S.M.C., and de Lima, D.U. 2000a. Galactomannans as the reserve carbohydrate in legume seeds. In Gupta, A.K. and Kaur, N. (eds.) *Carbohydrate Reserves in Plants-Synthesis and Regulation*. Elsevier Science. pp 283-316

Buckeridge, M.S., dos Santos, H.P., and Tine, M.A.S. 2000b. Mobilization of storage cell wall polysaccharides in seeds. *Plant Physiol. Biochem.* 38(1/2):141-156



- Buckeridge, M.S. 2010. Seed cell wall storage polysaccharides: models to understand cell wall biosynthesis and degradation. *Plant. Phy.* 154:1017-1023
- Can, E, Celiktas, N., Hatipoglu, R., and Avci, S. 2009. Breaking seed dormancy of some annual *Medicago trifolium* species by different treatments. *Turkish J. Of Field Crop* 14(2):72-78
- Carlson , J.B. and Lersten, N.R. 1987. Reproductive morphology, pp. 95-133. In J.R. Wilcox (Eds.) *Soybeans: Improvement, Production, and Uses*, 2<sup>nd</sup> edition. Madison:American Society of Agronomy and Academic Press.
- Cerqueira, M.A., Souza, B.w.S., Simoes, J., Teixeira, J.A., Domingues, M.R.M., Coimbra, M.A., and Vicente, A.A. 2011. Structural and thermal characterization of galactomannans from non-conventional sources. *Carbohydrate Polymers* 83:179-185
- Cheng, Y, dai, X.,Zhao, Y. 2006. Auxin biosynthesis by the YUCCA flavin monooxygenases controls the formation of floral organs and vascular tissues in *Arabidopsis*. *Genes Dev.* 20 (13):1790-1799
- Chitra, V., Ilango, K. Rajanandh, M.G. and Soni, D. 2010. Evaluation of *Delonix regia* Linn. Flowers for antiarthritic and antioxidant activity in female wistar rats. *Ann. of Biol. Res.* 1(2): 142-147
- Chiwocha, S.D.S., Abrams, S.R., Ambrose, S.J., Cutler, A.J., Loewen, M.,Ross, A.R.S., and Kermode, A.R. 2003. A method for profilling classes of plant hormones and their metabolites using liquid chromatography-electrospray ionization tandem mass spectrometry: an analysis of hormones regulation of thermodormancy of lettuce (*Lactuca sativa* L.) seeds. *The Plant Journal* 35:405-417
- Chiwocha, S.D., Cutler, A.J., Abrams, S.R., Ambrose, S.J., and Yang, J. 2005. The *etr1-2* mutation in *Arabidopsis thaliana* affects the abscisic acid, auxin, cytokinin and gibberellin metabolic pathways during maintenance of seed dormancy, moistchilling and germination. *Plant J.* 42, 35–48
- Clerkx, E.J.M. Blankenstijn-de Vries, H., Ruys, G.J., Groot, S.P.C., and Koornneef, M. 2003. Characterization of green seed, an enhancer of *abi3-1* in *Arabidopsis* that affects seed longevity. *Plant Physiol.* 132:1077-1084
- Corbineau, F., Xia, Q., Bailly, C., and El-Maarouf-Bouteau, H. 2014. Ethylene, a key factor in regulation of seed dormancy. *Front Plant Sci.* 5: 539



- Cutler, S.R., Rodriguez, P.L., Finkelstein, R.R., Abrams, S.R. 2010. Abscisic acid : Emergence of a core signaling network. *Annu. Rev. Plant Biol.* 61:651–679.
- Daviere, J-M., and Achard, P. 2013. Gibberellin signaling in plants. *Development* 140: 1147-1151
- DeMason, D.A., Sexton, R., Gorman, M. and Reid, J.S.G. 1985. Structure and biochemistry of endosperm breakdown in date palm (*Phoenix dactylifera* L.) seeds. *Protoplasma* 126: 159-167
- Debeaujon, I. and Koornneef, M. 2000. Gibberelin requirement for *Arabidopsis* seed germination is determined both by testa characteristics and embryonic ABA. *Plant Physiol.* 122:415-424
- Debeaujon, I., Leon-Kloosterziel, K.M., and Koornneef, M. 2000. Influence of testa on seed dormancy, germination, and longevity in *Arabidopsis*. *Plant Physiol.* 122: 403-413
- De Carvalho, P.G.B., Borghetti, F., Buckeridge, M.S., Morhy, L., and Filho, E.X.F. 2001. Temperature-Dependent Germination and Endo-beta-mananse activity in sesame seed. *R. Bars. Fisiol. Veg.* 13(2):139-148
- Delgado, C.M.L., de Paula, A.S., Santos, M., and Paulilo, M.T.S. 2014. Dormancy breaking requirements of *Sophora tomentosa* and *Erythrina speciosa* (Fabaceae) seeds. *Rev. Biol. Trop.* 63(1): 285-294
- De Souza, F.H.D. and Marcos-Filho, J. 2001. The seed coat as a modulator of seed-environment relationship in Fabaceae. *Revta Brasil. Bot.* 24 (4):365-375
- De Souza, T.V., Voltolini, C.H., Santos, M., and Paulilo, M.T.S. 2012. Water absorption and dormancy-breaking requirements of physically dormant seeds of *Schizolobium parahyba* (Fabaceae-Caesalpinoideae). *Seed Science Research*, 1-8, doi:10.1017/S0960258512000013
- De Castro, R.D., van Lammeren, A.A.M., Groot, S.P.C., Bino, R.J., and Hilhorst, H.W.M. 2000. Cell division and subsequent radicle protrusion in tomato seeds are inhibited by osmotic stress but DNA synthesis and formation of microtubular cytoskeleton are not. *Plant Physiol.* 122:327-335
- Dewar, J., Taylor, J.R.N. and Berjak, P. 1998. Changes in selected plant growth regulators during germination in sorghum. *Seed Science Research* 8, 1–8.



El-Maarouf-Bouteau, H. and Bailly, C. 2008. Oxidative signaling in seed germination and dormancy. *Plant Signal Behav.* 3(3):175-182

El-Maarouf-Bouteau, H., Sajjad, Y., Bazin, J., Langlade, N., Cristescu, S.M., Balzerque, S., Baudouin, E., and Bailly, C. 2015. Reactive oxygen species, abscisic acid and ethylene interact to regulate sunflower seed germination. *Plant Cell Environ* 38(2):364-374

Ertekin, M. and Kirdar, E. 2010a. Effects of seed colour on seed characteristics of honeylocust (*Gleditsia triacanthos*). *African J. of Agri. Res.* 5(17):2434-2438

Ertekin, M. and Kirdar, E. 2010b. Breaking seed dormancy of the strawberry tree (*Arbutus unedo*). *Int. J. Agric. Biol.* 12:57-60

Ertekin, M. 2011. Effects of microorganisms, hormone treatment and stratification on seed germination of goldenrain tree (*Koelreuteria paniculata*). *Int. J. of Agri. and Biol.* 13: 38-42

Finch-Savage, W.E. and Leubner-Metzger, G. 2006. Seed dormancy and the control of germination. *New Phytol.* 171: 501-523

Finch-Savage, W.E., Cadman, C.S.C., Toorop, P.E., Lynn, J.R. and Hilhorst, H.W.M. 2007. Seed dormancy release in *Arabidopsis Cvi* by dry after-ripening, low temperature, nitrate and light shows common quantitative patterns of gene expression directed by environmental specific sensing. *Plant J.* 51:60-78

Fincher, G.B. 1989. Molecular and cellular biology associated with endosperm mobilization in germinating cereal grains. *Annu Rev Plant Physiol Plant Mol Biol* 40:305–345.

Finkelstein, R., Gampala, S.S.L., and Rock, C.D. 2002. Abscisic acid signaling in seeds and seedling. *Plant Cell* 14:S15-S45

Finkelstein, R., Reeves, W., Ariizumi, T. and Steber, C. 2008. Molecular aspects of seed dormancy. *Annu. Rev. Plant Biol.* 59:387-415

Foley, M.E. 2001. Seed dormancy: an update on terminology, physiological genetics, and quantitative trait loci regulating germinability. *Weed Sc.* 49:305-317

Fu, J.R., Lu, X.H., Chen, R.Z., Zhang, B.Z., Liu, Z.S., and Cai, C.Y. 1988. Osmoconditioning of peanut (*Arachis hypogea* L.) seeds with PEG to improve vigour and some biochemical activities. *Seed Sci. Tech.* 16:197-212



- Gallardo, K., Job, C., Groot, S.P.C., Puype, M., Demol, H., Vandekerckhove, J., and Job, D. 2001. Proteomic analysis of *Arabidopsis* seed germination and priming. *Plant Physiol* 126: 835–848
- Gama-Arachchige, N.S., Baskin, J.M., Geneve, R.L. and Baskin, C.C. 2010. Identification and characterization of the water gap in physically dormant seeds of Geraniaceae, with special reference to *Geranium carolinianum*. *Ann. of Bot.* 105:977-990
- Gama-Arachchige, N.S., Baskin, J.M., Geneve, R.L. and Baskin, C.C. 2013. Identification and characterization of ten new water gaps in seeds and fruits with physical dormancy and classification of water-gap complexes. *Annals of Botany* 112:69-84
- Garciarrubio, A., Legaria, J.P. and Covarrubias, A.A. 1997. Abscisic acid inhibits germination of mature *Arabidopsis* seeds by limiting the availability of energy and nutrients. *Planta* 203(2):182-187
- Ghosh, N, Chatterjee, A., and Smith, D.W. 2009. Scanning electron microscopy in characterizing seeds of some Leguminous trees. *Proc. of SPIE* Vol. 7378:737811-1
- Giorgini, J.F. and Comoli, E. 1996. Effect of embryo and exogenous GA<sub>3</sub> on endospermic endo-β-mannanase activity of *Coffea arabica* L. during germination and early seedling growth. *R. Bras.Fisiol. Veg.* 8(1):43-49
- Goldberg, R.B., de Paiva, G. and Yadegari, R. 1994. Plant embryogenesis: zygote to seed. *Science* 266:605-614
- Gong, X., Bassel, G.W., Wang, A., Greenwood, J.S., and Bewley, J.D. 2005. The emergence of embryo from hard seed is related to the structure of the cell walls of the micropylar endosperm, and not to endo-β-mannanase activity. *Ann. of Bot.* 233:25-36
- Gong, X.M. and Bewley, J.D. 2007. Sorting out the LeMANS: endo-β-mannanase genes and their encoded proteins in tomato. *Seed Science Research*. 17:143–154.
- Graven, P., De Koster,C.G., Boon, J.J., and Bouman, F. 1996. Structure and macromolecular composition of seed coat of The Musaceae. *Ann. of Bot.* 77:105-122
- Graeber, K., Linkies, A., Muller,K., Wunchova, A., Rott, A., Leubner-Metzger, G. 2010. Cross-species approaches to seed dormancy and germination :



conservation and biodiversity of ABA-regulated mechanisms and the Brassicaceae *DOG1* genes. *Plant Mol. Biol.* 73:67-87

Groot, S.P.C. and Karssen, C.M. 1987. Gibberellins regulate seed germination in tomato by endosperm weakening: a study with gibberellins-deficient mutants. *Planta* 171:525-531

Groot, S.P.C., Kieliszewska-Rokicka, B., Vermeer, E., and Karssen, C.M. 1988. Gibberellin-induced hydrolysis of endosperm cell walls in gibberellin-deficient tomato seeds prior to radicle protrusion. *Planta* 174:500–504

Guan, L.Q.M. and Scandalios, J.G. 2002. Catalase gene expression in response to auxin-mediated developmental signals. *Physiologia Plantarum* 114, 288–295.

Gubler, F., Chandler, P.M., White, R.G., Llewellyn, D.J. and Jacobsen, J.V. 2002. Gibberellin Signaling in Barley Aleurone Cells. Control of SLN1 and GAMYB Expression. *Plant Physiology* 129:191–200

Gupta, R. and Chakrabarty, S.K. 2013. Gibberelic acid in plant, still a mystery unresolved. *Plant Signaling & Behavior* 8:9, e25504

Hanna, P.J. 1984. Anatomical features of the seed coat of *Acacia kempeana* (Mueller) which relate to increased germination rate induced by heat treatment. *New Phytol.* 96: 23-29

Hassanein, A.M.A. 2010. Improving seed germination and seedling growth of some economically important trees by seed treatments and growing media. *Journals of Hort. Sc. and Ornamental Plants* 2(1): 24-31

Hassani, S.B., Saboora, A., Radjabian, T., and Hussein, H.F. 2009. Effects of temperature, GA<sub>3</sub>, and cytokinins on breaking seed dormancy of *Ferula assa-foetida* L. *Iranian J. of Sc. and Tech.*. 33 (A1): 75-85

Hilhorst, H.W.M. 1995. A critical update on seed dormancy. *Seed. Sci. Res.* 5:61-73

Hilhorst, H.W..M. and Karssen, C.M. 1992. Seed dormancy and germination, the role of abscisic acid and gibberellin and the importance of hormone mutants. *Plant Growth Regul.* 11:225-238

Hilhorst, H.W..M. and Karssen, C.M. 1988. Dual effect of light on the gibberellin and nitrate-stimulated seed germination of *Sisymbrium officinale* and *Arabidopsis thaliana*. *Plant Physiol.* 86:591-597



- Hubbard, K.E., Nishimura, N, Hitomi, K., Getzoff, E.D., and Schroeder, J.I. 2010. Early abscisic acid signal transduction mechanisms: Newly discovered components and newly emerging questions. *Genes Dev.* 24(16):1695–1708.
- Iglesias-Fernandes, R., Rodriguez-Gacio, M.C., Barrero-Sicilia, C., Carbonero, P., and Matilla, A. 2011a. Three Endo- $\beta$ -mannanase genes expressed in the micropylar endosperm and in the radicle influence germination of *Arabidopsis thaliana* seeds. *Planta* 233:25-36
- Iglesias-Fernandes, R., Rodriguez-Gacio, M.C., Barrero-Sicilia, C., Carbonero, P., and Matilla, A. 2011b. Molecular analysis of Endo- $\beta$ -mannanase genes upon seed imbibition suggest a cross talk between radicle and micropylar endosperm during germination of *Arabidopsis thaliana*. *Plant Sig. and Behav.* 6:1, 80-82
- Inacio, M.C., Moraes, R.M., Mendoca, P.C., Morel, L.J.F., Franca, S.C., Bertoni, B.W., and Pereira, A.M.S. 2013. Phenolic compounds influence seed dormancy of *Palicourea rigida* H.B.K. (Rubiaceae), a medicinal plant of the Brazilian Savannah. *American Journal of Plant Sciences* 4: 129-133
- Jayasuria, K.M.G.G., Baskin, J.M., Geneve, R.L., Baskin, C.C., and Chien, C.T. 2008. Physical dormancy in seeds of the Holoparasitic Angiosperm *Cuscuta australis* (Convolvulaceae, Cuscuteae): dormancy-breaking requirement, anatomy of the water gap and sensitivity cycling. *Annals of Botany* 102:39-48
- Joet, T., Laffargue, A., Salmona, J., Doulbeau, S., Descroix, F., Bertrand, B., Lashermes, P., and Dussert, S. 2013. Regulation of galactomannan biosynthesis in coffee seeds. *Journal of Experimental Botany*, Advanced Access, November 7. doi:10.1093/jxb/ert380:1-15
- Jolaosh, A.O., Oduguwa, B.O., Onifade, O.S., and Babayemi, J.O. 2006. Effects of ingestion by cattle and immersion in hot water and acid on the germinability of rain tree (*Albizia saman*) seeds. *Tropical Grassland* 40:244-253
- Jones, R.L. 1974. The structure of lettuce endosperm. *Planta* 121:133-146
- Jurgens, G. 2001. Apical-basal pattern formation in *Arabidopsis* embryogenesis. *The EMBO J.* 20:3609-3616
- Jurgens, G., Mayer, U., Torres-Ruiz, R.A., Berleth, T., and Misra, S. 1991. Genetic analysis of pattern formation in the *Arabidopsis* embryo. *Development* (supplement)1:27-38



- Kale, R.H., Joshi, U.M., Ambhore, D.P. and Sitaphale, G.R. 2009. Evaluation of *Delonix regia* Raf. endospermic mucilage as tablet binder. *Int. J. of ChemTech Res.* 1(1):11-15
- Kaneko, M., Itoh, H., Ueguchi-Tanaka, M., Ashikari, M., and Matsuoka, M. 2002. The  $\alpha$ -amilase induction in endosperm during rice seed germination is caused by gibberellin synthesized in epithelium. *Plant Physiol.* 128(4):1264-1270
- Kang, J., Yim, S., Choi, H., Kim, A., Lee, K.P., Lopez-Molina, L., Martinoia, E., and Lee, Y. 2015. Abscisic acid transporters cooperate to control seed germination. *Nature Communications* 6:8113
- KarsSEN, C.M., Zagorski, S., Kepczynski, J., Groot, S.P.C. 1988. Key role for endogenous gibberellin in the control of seed germination. *Annals of Botany* 63:71-80
- Khandelwal, S., Udipi, S.A., and Ghugre, P. 2010. Polyphenols and tannins in Indian pulses: effect of soaking, germination and pressure cooking. *Food Research International* 43:526-530
- KarsSEN, C.M., Brinkhorst-Van der Swan, D.L.C., Breekland, A. and Koornneef, M. 1983. Induction of dormancy during seed development by endogenous abscisic acid: studies of abscisic acid deficient genotypes of *Arabidopsis thaliana* (L.) *Planta* 157:158-165
- Karcz, J., Ksiazczyk, T., and Maluszynska, J. 2005. Seed coat patterns in rapid-cycling Brassica forms. *Acta Biologica Cracoviensis* 47 (1):159-165
- KarsSEN, C.M., Zagorsky, S., Kepczynski, J., and Groot, S.P.C. 1989. Key role of endogenous gibberellin in the control of seed germination. *Ann. of Bot.* 63:71-80
- Kelen, M., Demiralay, E.C., Sen, S., and Ozkan, G. 2004. Separation of abscisic acid, indol-3-acetic acid, giberellic acid in 99 R (*Vitis berlandieri* x *Vitis rupestris*) and rose oil (*Rosa damascena* Mill.) by reversed phase liquid chromatography. *Turk. J. Chem.* 28:603-610
- Kermode, A.R. 2005. Role of abscisic acid in seed dormancy. *J. of Plant Growth Reg.* 24: 319-344
- Kermode, A.R. and Bewley, J.D. 1987. The role of maturation in the transition from seed development germination V. Response of the immature castor bean embryo to isolation from the whole seed : a comparison with premature desiccation. *Journal of Experimental Botany* 39 (4):487-497



- Keshtkar, A.R., Keshtkar, H.R., Razavi, S.M. and Dalfardi, S. 2008. Methods to break seed dormancy of *Astragalus cyclophyllon*. *African J. of Biotech.* 7(21): 3874-3877
- Kirmizi, S., Guleryuz, G., Arslan, H. and Sakar, F.S. 2010. Effects of moist chilling, gibberellic acid, and scarification on seed dormancy in the rare endemic *Pedicularis olympica* (Scrophulariaceae). *Turk. J. Bot.* 34: 225-232
- Koo, H.J., Park, S.M., Kim., K.P., Suh, M.C., Lee, M.O., Lee, S.K., Xinli, X., and Hong, C.B. 2015. Small heat shock proteins can release light dependence of tobacco seed during germination. *Plant Physiol.* 167(3):1030-1038
- Koornneef, M., Bentsink, L and Hilhorst, H. 2002. Seed dormancy and germination. *Curr. Opinion in Plant Biol.* 5:33-36
- Kraner, I., Kastberger, G., Hartbauer, M., and Pritchard, H.W. 2010. Noninvasive diagnosis of seed viability using infrared thermography. *Proc. Natl. Acad. Sci.* 107(8): 3912–3917.
- Kucera, B. Cohn, M.A., and Leubner-Metzger, G. 2005. Plant hormone interaction during seed dormancy release and germination. *Seed Sc. Res.* 15:281-307
- Kumar, R.N., Chakraborty, S., and Kumar, N.J.I. 2011. Methods to break seed dormancy of *Andrographis paniculata* (Burm.f.Nees): an important medicinal herb of tropical Asia. *Asian J. Exp. Biol. Sci.* 2(1):143-146
- Laux, T. and Jurgens, G. 1997. Embryogenesis: a new start in life. *Plant Cell* 9:989-1000
- Lee. S. Cheng, H. and King, K.E., Wang, W., He, Y., Hussain, A., Lo, J. Harberd, N.P. and Peng, J. 2002. Gibberrelin regulates *Arabidopsis* seed germination via RGL2, a GAI/RGA like gene whose expression is up-regulated following imbibition. *Genes and Development* 16:646-658
- Leubner-Metzger, G. 2002. After-ripening and over expression of class I  $\beta$ -1,3-glucanase confer maternal effects on tobacco tests rupture and dormancy release. *Planta* 215:959-968
- Leubner-Metzger, G. 2003. Hormonal and molecular events during seed dormancy release and germination, pp. 101-112. In: G. Nicolas, K.J. Bradford, D. Come and H.W. Pritchard (Eds.). *The Biology of Seeds: Recent Research Advances*. CABI Publishing, Wallingford, UK.



- Leubner-Metzger, G., Kucera, B., and Muller, K. 2006. Emerging and established model systems for endosperm weakening, pp. 195-204. In : S. Navie, S. Adkins, and S. Ashmore (Eds.) *Seeds: Biology, Development, and Ecology*. CAB International CAB Publishing, Wallingford, UK.
- Li, B.L. and Foley, M.E. 1997. Genetic and molecular control of seed dormancy. *Trends Plant Sci.* 2:384-389
- Li, X., Baskin, J.M. and Baskin, C.C. 1999. Anatomy of two mechanism of breaking physical dormancy by experimental treatment in seeds of two North America *Rhus* species (Anacardiaceae). *American J. of Bot.* 86(11):1505-1511
- Linkies, A., and Leubner-Metzger, G. 2012. Beyond gibberellins and abscisic acid: how ethylene and jasmonates control seed germination. *Plant Cell Rep.* 31:253-270
- Linkies, A., Muller, K., Morris, K., Tureckova,V., Wenk, M., Cadman,C.S.C., Corbineau, F., Strnad,M., Lynn, J.R., Finch-Savage, W.E., and Leubner-Metzger, G. 2009. Ethylene Interacts with Abscisic Acid to Regulate Endosperm Rupture during Germination: A Comparative Approach Using *Lepidium sativum* and *Arabidopsis thaliana*. *The Plant Cell* 21:3803-3822
- Lisboa, C.G.S., Tonini, P.P., Tine, MAS, and Buckeridge, M.S. 2006. Endo- $\beta$ -mannanase from the endosperm of seeds of *Sesbania virgata* (Leguminosae): purification, characterization and its dual role in germination and early seedling growth. *Braz.J. Plant. Physiol.* 18(2):269-280
- Liu, Y., Shi, L., Ye, N., Liu, R., Jia, W., and Zhang, J. 2005. Nitric oxide-induced rapid decrease of abscisic acid concentration is required in breaking seed dormancy in *Arabidopsis*. *New Phytol.* 183:1030-1042
- Liu, X., Zhang, H., Zhao, Y., Feng,Z., Li, Q., Yang,H.Q., Luan, S., Li, J., and He,Z.H. 2013. Auxin controls seed dormancy through stimulation of abscisic acid signaling by inducing ARF-mediated *AB13* activation in *Arabidopsis*. *PNAS (Proc. Natl. Acad. Sci).* Vol. 110, no. 38, pp 15485-15490
- Liu, P.P., Montgomery, T.A., Fahlgren, N., Kasschau, K.D., Nonogaki, H., and Carrington,J.C. 2007. Repression of *AUXIN RESPONSE FACTOR10* by microRNA160 is critical for seed germination and post-germination stages. *Plant J* 52(1):133–146



- Ljung, K., Ostin, A., Lioussanne, L. and Sandberg, G. 2001. Developmental regulation of indole-3-acetic acid turnover in scots pine seedlings. *Plant Physiology* 125, 464–475.
- Lin, L.S., and Ho, T.H.D. 1986. Mode of action of abscisic acid in barley aleurone layers1 induction of new proteins by abscisic acid. *Plant Physiol.* 82: 289-297
- Ma, F., Cholewa, E., Mohamed, T., Peterson, C.A., and Gijzen, M. 2004. Cracks in the palisade cuticle of soybean seed coats correlate with their permeability to water. *Ann. of Bot.* 94:213-228
- Ma, H., Liang, Z., Wu, H., Huang, L., and Wang, Z. 2010. Role of endogenous hormones glumes, endosperm, and temperature on germination of *Leymus chinensis* (Poaceae) seeds during development. *J. of Plant Ecol.* 28:1-9
- Matilla A. J. (2000). Ethylene in seed formation and germination. *Seed Sci. Res.* 10 111–126
- Mavi, K. 2010. The relationship between seed color and seed quality in watermelon Crimson sweet. *Hort. Sci.* 37(2): 62-69
- Marfo, E.K., Oke, O.L. and Afolabi, OA. 1989. Chemical and nutritional evaluation of flamboyant beans (*Delonix regia*). *Nutr. Rep. Int.* 39(1): 137-144
- Meyer, C. J., Steudie, E., and Peterson, C.A. 2007. Patterns and kinetics of water uptake by soybean seeds. *J. of Exp. Bot.* 58(3): 717-732
- Miller, S.S., Jin, Z., Schnell, J.A., Romero, M.C., Brown, D.C.W., and Johnson, D.A. 2010. Hourglass cell development in the soybean seed coat. *Ann. of Bot.* 1-8 doi: 10.1093/aob/mcq101
- Miransari, M., Smith, D.L., and Ruheden, M. 2014. Review plant hormones and seed germination. *Environmental and Experimental Botany* 99:110–121
- Moise, J.A., Han, S., Gudynaite-Savitch, L., Johnson, D.A. and Miki, B.L.A. 2005. Seed coats: structure, development, composition, and biotechnology. *In Vitro Cell. Dev. Biol.-Plant* 41:620-644
- Molle, F.R.D. and Tine, M.A.S. 2009. Sucrose catabolism during galactomannan mobilization and its importance in the survival strategy of *Sesbania virgata* (Cav.) Pers. Planlets. *Oehnea* 36(2)



- Morrison, D.A., McClay, K., Porter, C. and Rish, S. 1998. The role of the lens in controlling heat-induced breakdown of testa-imposed dormancy in native Australian legumes. *Ann. of Bot.* 82:35-40
- Morris, K., Linkies, A., Muller, K., Oracz, K., wang, X., Lynn, J.R., Leubner-Metzger, G., and Finch-Savage, W.E. 2011. Regulation of seed germination in the close *Arabidopsis* relative *Lepidium sativum*: a global tissue-specific transcript analysis. *Plant Physiol.* 155:1851-1870
- Morris, C.F., Mueller, D.D., Faubion, J.M., Paulsen, G.M. 1988. Identification of l-tryptophan as an endogenous inhibitor of embryo germination in white wheat. *Plant Physiol* 88(2):435-440.
- Muller, K., Tintelnot, S., and Leubner-Metzger, G. 2006. Endosperm-limited Brassicaceae seed germination: abscisic acid inhibits embryo-induced endosperm weakening of *Lepidium sativum* (cress) and endosperm rupture of cress and *Arabidopsis thaliana*. *Plant Cell Physiol.* 47(7):864-877
- Muthukumar, G., Sivaramakhrisan, R., and Mahadevan, A. 1985. Effect of tannins on plants on their productivity. *Proc. Indian. Sci. Acad.* B51 No.2 : 270-281
- Nakamura, T., Yang, D., Kalaiselvi, S., Uematsu,Y.,and Takahashi, R. 2003. Genetic analysis of net-like cracking in soybean coats. *Euphytica* 133:179-184
- Ndakidemi, P.A., and Dakora, F.D. 2003. Legume seed flavonoids and nitrogenous metabolites as signals and protectants in early seedling development. *Funct. Plant. Biol.* 30:729-745
- Napier JA, Chapman JM, Black M. Calcium-dependent induction of novel proteins by abscisic acid in wheat aleurone tissue of different developmental stages. *Planta*. 1989;179:156–164.
- Ni, D.A., Wang, L.J., Ding, C.H., and Xu, Z.H. 2001. Auxin distribution and transport during embryogenesis and seed germination of *Arabidopsis*. *Cell Research* 11:273-278
- Nicolas, C., Nicolas, G and Rodriguez, D. 1996. Antagonistic effects on abscisic acid and gibberellic acid on the breaking of dormancy of *Fagus sylvatica* seeds. *Physiol Plant* 96:244-250
- Nonogaki, H., Gee, O.H. and Bradford, K.J. 2000. A germination-specific endo- $\beta$ -mannanase gene is expressed in the micropylar endosperm cap of tomato seeds. *Plant Physiol.* 123:1235-1245



Nonogaki, H. 2006. Seed germination : the biochemical and molecular mechanism. *Breeding Scince* 56:93-105

Nonogaki, H and Morohashi, Y. 1996. An endo- $\beta$ -mannanase develops exclusively in the micropylar endosperm of tomato seeds prior to radicle emergence. *Plant Physiol* 110: 555-559

Nonogaki, H. 2008. *Seed Germination and Reserve Mobilization*. Jhon Wiley& Sons Ltd, Chichester.

Nonogaki, H. Bassel., G.W. and Bewley, J.D. 2010. Germination still a mystery. *Plant Sc.* 179: 574-581

Nonogaki, H., Nomaguchi, M., Morohashi, Y., and Matsushima. 1998. Development and localization of endo-  $\beta$ -mannanase of germinating and germinated tomato seeds. *J. of Exp. Bot.* 49(329):1501-1507

Nonogaki, H.,Matsushima,H., and Morohashi,Y. 1992. Galactomannan hydrolyzing activity develops during priming in the micropylar endosperm tip of tomato seeds. *Physiologia Plantarum* 85:167-172

Nooden, L.D., Blakley, K.A., and Grzybowski, J.M. 1985. Control of seed coat thickness and permeability in soybean. *Plant Physiol.* 79:543-545

Novita, W.,Arief, K., Nisa, F.C., and Murdiyatmo,U. 2006. Karakterisasi parsial ekstrak kasar enzim protease dari *Bacillus amyloliquefaciens* NRRL B-14396. *Jurnal Teknologi Pertanian* 7(2):96-105

Ohto, M., Stone, S.L., and Harada, J.J. 2007. Genetic control of seed development and seed mass, pp. 1-24. In: K. Bradford and H. Nonogaki (Eds.). *Seed Development, Dormancy and Germination, Annual Plants Reviews* Vol. 27.

Olsen, O.A. 1998. Endosperm development. *Plant Cell* 10:485-488

Oliveira, G.E.C., Von Pinho, R.G., Andrade, T., Von Pinho, E.V.R. 2013. Physiological quality and amylase enzyme expression in maize seeds. *Scienc. Agrotecnol.* 37: 40-48.

O'Reilly, C. & De Atrip, N. 2007. Seed moisture content during chilling and heat stress effects after chilling on the germination of common alder and downy birch seeds. *Silva Fennica* 41(2): 235–246.

Orozco-Segovia, A., Marquez-Guzman, J., Sanchez-Coronado, M.E., de Buen, A.G., Baskin, J.M., and Baskin, C.C. 2007. Seed anatomy and water uptake



in relation to seed dormancy in *Opuntia tomentosa* (Cactaceae, Opuntioideae). *Annals of Botany* 99:581-592

Otroschy, M., Zamani, A., Khodambashi, M., ebrahimi, M. And Struik, P.C. 2009. Effect of exogenous hormones and chilling on dormancy breaking of seeds of asafoetida (*Ferula assafoetida* L.) *Res. J. Seed Sci.* 2:9-15

Owoyokun, T.O. 2009. Biosorption of methylene blue dye aqueous solutions on *Delonix regia* (flamboyant tree) pod biosorbent. *The Pas. J. of Sc. and Tech.* 10(2): 872-883

Patil, V.N. and Dadlani, M. 2009. Tetrazolium test for seed viability and vigour. *Handbook of Seed Testing* [http://dacnet.nic.in/seednet/seeds/material/handbook\\_of\\_seed\\_testing/Chapter14.pdf](http://dacnet.nic.in/seednet/seeds/material/handbook_of_seed_testing/Chapter14.pdf)

Paiva, E.A.S., Lemos-Filho, J.P., and Oliveira, D.M.T. 2006. Imbibition of *Swietenia macrophylla* (Meliaceae) seeds:the role of stomata. *Ann. Bot.* 98:213-217

Penfield, S. and King, J. 2009. Towards a systems biology approach to understanding seed dormancy and germination. *Proceeding the Royal Society Biological Science* doi:10.1098/rspb.2009.0592 published online 15 July 2009

Peters, J. 2005. *Tetrazolium Testing Handbook*. Association of Official Seed Analysis, USA.

Petrizzelli, L., Muller, K., Hermann, K. and LeubnerMetzger, G. 2003. Distinct expression patterns of b-1,3- glucanases and chitinases during the germination of Solanaceous seeds. *Seed Science Research* 13, 139–153

Pirello, J., Jaimes-Miranda, F., Sanchez-Ballesta, M.T., Tournier, B., Khalil-Ahmad, Q., Regad, F., Latche, A., Pech, J.C., and Bouzayen, M. 2006. Sl-ERF2, a tomato ethylene response factor involved in ethylene response and seed germination. *Plant Cell Physiol.* 47(9):1195-205

Planes, M.D., Ninoles, R., Rubio, L., Bueso, E., Garcia-Sanches, M.J., Alejandro, S., Gonzales-Guzman, M., Hedrich, R., Rodriguez, P.L., Fernandez, J.a., and Serrano, R. 2015. A mechanism of growth inhibition by abscisic acid in germinating seeds of *Arabidopsis thaliana* based on inhibition of plasma membrane H<sup>+</sup>-ATPase and decreased cytosolic pH, K<sup>+</sup>, and anions. *J. Exp. Bot.* 66:813-825

Potomati, A. and Buckeridge, M.S. 2002. Effect of abscisic acid on the mobilization of galactomannan and embryo development of *Sesbania*



- virgata* (Cav.) Pers. (Leguminosae-Faboideae). *Revista Brasil. Bot.* 25(3): 303-310
- Powell, A.A., Yule, L., Jing, H.C., Groot, S.P.C., Bino, R.J. and Pritchard, H.W. 2000. The influence of aerated hydration seed treatment on seed longevity as assessed by the viability equations. *J. Exp. Bot.* 51:2031-2034
- Probert, R.J. 2000. The Role of Temperature in the Regulation of Seed Dormancy and Germination. In : Fenner, M. (eds.) *Seeds: The Ecology of Regeneration in Plant Communities*, 2nd edition CAB International, pp. 261-292
- Psaras, G. 1984. On the Structure of Lettuce (*Lactuca sativa* L.) Endosperm during Germination. *Annals of Botany* 54 (2) :187-194
- Rademacher, W. 2000. Growth retardants: effects on giberellin biosynthesis and other metabolic pathways. *Annu. Rev. Plant Physiol. Mol. Biol.* 51:139-160
- Ramaih, S., Guedira, M., Paulsen, G.M. 2003. Relationship of indoleacetic acid and tryptophan to dormancy and preharvest sprouting of wheat. *Funct. Plant Biol.* 30(9):939–945
- Razavi, S.M. and Hajiboland, R. 2009. Dormancy breaking and germination of *Prangos ferulaceae* seeds. *EurAsian J. of BioSc.* 3: 78-83
- Rehman, S., Choi, Heh-Ran, Jamil, M, and yun, Song-Joong. 2011. Effect of GA and ABA on germination behaviour of black Raspebbry (*Rubus coreanus* Miquel) seeds. *Pak. J. Bot.* 43(6):2811-2816
- Rehman, S.M., Hossain, M., Islam, A.K.M., and Joarder, O.I. 1992. Micropropagation in *Delonix regia* through immature embryo derived shoot tips. *Pak. J. Bot.* 24(1):60-63
- Robles, C., Greff, S., Pasqualini, V., Garzino, S., Bousquet-Me'lou, C. , Fernandez, C., Karboulewsy, J., and Bonin, G. 2003. Phenols and flavonoids in Aleppo pine needles as bioindicators of air pollution. *J. Environ. Qual.* 32:2265-2271
- Rodriguez-Gacio, M.C., Matilla-Vazques, M.A., and Matilla, A.J. 2009. Seed dormancy and ABA signaling. *Plant Sig. and Behav.* 4 (11): 1035-1048
- Rodriguez-Gacio, M.C., Iglesias-Fernandes, R., Carbonero, P., and Matilla, A.J. 2012. Softening-up mannan-rich cell walls. *Journal of Experimental Botany* 63(11):3975-3988



- Rusydi, M.M.R. and Azrina, A. 2012. Effect of germination on total phenolic, tannin, and phytic acid contents in soy bean and peanut. *International Food Research Journal* 19(2): 673-677
- Salunkhe, D. K., J. K. Chavan and S. S. Kadam. 1990. *Dietary tannins: Consequences and remedies*. CRC Press, Boca Raton, Florida, USA.
- Salanenka, Y.A., Goffinet, M.C. and Taylor, A.G. 2009. Structure and histochemistry of the micropylar and chalazal regions of the perisperm-endosperm envelope of cucumber seeds associated with solute permeability and germination. *J. Amer. Soc. Hort. Sci.* 134(4):479-487
- Santos, H.P. and Buckeridge,M.S. 2004. The role of the storage carbon of cotyledons in the establishment of seedling of *Hymenaea courbaril* under different light conditions. *Annals of Botany* 94:819-830
- Saxena, A.K., Chadha, M. And Sharma, S. 2003. Nutrients and antinutrients in chickpea (*Cicer arietinum* L.) cultivars after soaking and pressure cooking. *Journal of Food Science and Technology* 40: 493-497
- Schroder, R., Atkinson, R.G., and Redgwell, R.J. 2009. Re-interpreting the role of endo- $\beta$ -mannanase as mannan endotransglycosylase/hydrolases in the plant cell wall. *Ann. of Bot.* 104:197-204
- Sedghi, M., Khomari, S. and Amanpour-Balaneji, B. 2011. Effect of seed vigor dan hormone priming on glyoxylate cycle enzyme activity in Persian silk tree (*Albizia julibrissin* Durazz.) *World Applied Science Journal* 13(3):541-544
- Serrato-Valenti, G. De Vries, M. and Cornara, L. 1995. The hilar region in *Leucaena leucocephala* Lam. (De Wit) seed: structure, histochemistry, and the role of the lens in germination. *Ann. of Bot.* 75: 569-574
- Serrato-Valenti, G., Cornara, L., Modenesi, P., Piana, M., and Mariotti, G. 2000. Structure and histochemistry of embryo envelope tissue in the mature dry seed and early germination of *Phacelia tanacetifolia*. *Ann. of Bot.* 85:625-634
- Sharma, B.R., Dhuldhoya, N.C., Merchant, S.U. and Merchant, U.C. 2008. A Glimpse of galactomannans. *Science Tech Entrepeneur*, 1-10
- Shao, S., Meyer, C.J, Ma, F., Peterson, C.A., and Bernarde, M.A. 2007. The outermost cuticle of soybean seeds: chemical composition and function during imbibition. *J. of Exp. Bot.* 58: 1071-1082



Shinomura, T. 1997. Phytochrome regulation of seed germination. *J. Plant Res.* 110:151-161

Sitrit, Y., Hadfield, K.A., Bennet, A.B., Bradford, K.J., and Downie, A.B. 1999. Expression of a polygalacturonase associated with tomato seed germination. *Plant Physiol.* 121: 419-428

Smykal, P. Vermoud, V, Blair, M.W., Soukup, A. and Thompson, R.D. 2014. The role of the testa during development and in establishment of dormancy of the legume seed. *Front. Plant Sci.* 5 ( Art. 351): 1-19

Soumya, M., Ranjit, P.M., Chowdary, Y.A., Krishna, K.R., Murthy, V.S.N., Guntuku, G., and Rani, A.P. 2013. Formulation and in vitro evaluation of metoprolol succinate sustained release tablets using endosperm gum of *Delonix regia* (Bojer ex. Hook.) seeds. *World Journal of Pharmacy and Pharmaceutical Science* 3(1):534-543

Still,D.W. Dahal, P., and Bradford, K.J. 1997. A singled-seed assay for endo- $\beta$ -mannanase activity from tomato endosperm and radicle tissues. *Plant Physiol.* 113:13-20

Sung, Y., Cantliffe, D.J., nagata, R.T., and Nascimento, W.M. 2008. Structural changes in lettuce seed during germination at high temperature altered by genotype, seed maturation temperature, and seed priming. *J. Amer. Soc. Hort. Sci.* 133(2):300-311

Sung, F.J.M. and Chang, Y.H. 1993. Biochemical activities associated with priming of sweet corn seeds to improve vigor. *Seed Sci. Tech.* 21:97-105

Suzuki, T., Matsuura,T., Kawakami, N., and Noda, K. 2000. Accumulation and leakage of abscisic acid during embryo development and seed dormancy in wheat. *Plant Growth Regulation* 30 ( 3 ) : 253-260

Takaki, M. 2001. New roposal of classification of seeds based on form of phytochrom instead of photoblastism. *Rev. Bras. Fisiol. Veg.* vol.13 no.1

Tam, Y.Y., Epstein, E., and Normanly, J. 2000. Characterization of auxin conjugates in *Arabidopsis*. Low steady-state levels of indole-3-acetyl-aspartate, indole-3-acetyl-glutamate, and indole-3-acetyl-glucose. *Plant Physiol.* 123:589-595

Tamaki, Y., Teruya, T. and Tako, M. 2010. The chemical structure of galactomannan isolated from seed of *Delonix regia*. *Biosci. Biotechnol. Biochem.* 74(5):1110-1112



To, A., Valon, C., Savino, G., Guilleminot, J., Devic, M., Giraudat, J. and Parcy, F. 2006. A network of local and redundant gene expression govern *Arabidopsis* seed maturation. *Plant Cell* 18:1642-1651

Tokuhisa, D. 2007. Phenolic compound in papaya seeds (*Carica papaya* L.) *Rev. Bras. Sementes* (online) 29(3):180-188

Tonini, P.P., Eduardo Purgatto, E., and Buckeridge, M.S. 2010. Effects of abscisic acid, ethylene and sugars on the mobilization of storage proteins and carbohydrates in seeds of the tropical tree *Sesbania virgata*(Leguminosae). *Ann. Bot.* 106 (4):607-616

Toorop, P.E., van Aeist, A.C., and Hilhorst, H.W.M. 2000. The second step of biphasic endosperm cap weakening that mediates tomato (*Lycopersicon esculentum*) seed germination is under control of ABA. *J. of Exp. Bot.* 51(349):1371-1379

Turner, S.R., Cook, A., Baskin, J.M., Baskin, C.C., Tuckett, R.E., Steadman, K.J. and Dixon, K.W. 2009. Identification and characterization of water gap in the physically dormant seeds of *Dodonaea petiolaris*: a first report for Sapindaceae. *Ann. of Bot.* 104:833-844.

Van Dongen, J.T., Ammerlaan, A.M.H., Wouterlood, M., Van Aelst, A.C. and Borstlap, A.C. 2003. Structure of the developing pea seed coat and the post-phloem transport pathway of nutrients. *Ann. of Bot.* 91:729-737

Van Hengel, A.J., guzzo, F., van Kammen, A., and de Vires, S.C. 1998. Expression pattern of the carrot *EP3* endochitinase genes in suspension cultures and in developing seeds. *Plant Physiol.* 117:43-53

Varier, A., Vari A.K., and Dadlani, M. 2010. The subcellular basis of seed priming. *Curr. Sc.* 99(4): 450-456

Vicente-Carbajosa, J and Carbonero, P. 2005. Seed maturation: developing an intrusive phase to accomplish a quiescent state. *Int. J. Dev. Biol.* 49:645-651

Vieira, A.R., Vieira, M.D.G.G.C., Fraga, A.C., Oliveira, J.A., and Santos, C.D.D. 2002. Action of gibberellic acid (GA3) on dormancy and activity of  $\alpha$ -amylase in rice seeds. *Revista Brasileira de Sementes* Vol. 24 : 43-48

Van Dongen, J.T., Ammerlaan, A.M.H., Wouterlood, M., Van Aelst, A.C. and Borstlap, A.C. 2003. Structure of the developing pea seed coat and the post-phloem transport pathway of nutrients. *Ann. of Bot.* 91:729-737



Vanneste, S. and Friml, J. 2009. Auxin: a trigger for change in plant development. *Cell* 136(6):1005–1016.

Vozzo, J.A. 2001. *Tropical Tree : Seed Manual*. United States Department of Agriculture, Forest Service. pp 468-469

Wang Y, Li, L., Ye, T., Zhao, S., Liu, Z., Feng, Y.Q., Wu, Y. 2011. Cytokinin antagonizes ABA suppression to seed germination of *Arabidopsis* by downregulating *ABI5* expression. *Plant J* 68(2):249–261.

Wang, H.L. and Grusak, M.A. 2005. Structure and development of *Medicago truncatula* pod wall and seed coat. *Annals of Botany* 95:737-747

Wang, W.Q., Ye, J.Q., Rogowska-Wrzesinska, A., Wojdyla, K.I., Jensen, O.N., Møller, I.M, and Song, S.Q. 2014. Proteomic comparison between maturation drying and prematurely imposed drying of *Zea mays* seeds reveals a potential role of maturation drying in preparing proteins for seed germination, seedling vigor, and pathogen resistance. *J. Proteome Res.* 13: 606–626

Wasala, S., Fernando, W.D.S.L, and Narasinghe, I.S. 2011. Hardseededness of local mungbean (*Vigna radiata*) varieties. *Tropical Agricultural Research and Extension* 14(1):5-6

Wehmeyer, N., Hernandez, L.D., Finkelstein, R.R., and Vierling, E. 1996. Synthesis of small heat-shock proteins is part of the developmental program of late seed maturation. *Plant Physiol* 112: 747–757

Weibrecht, K., Muller, K, and Leubner-Metzger, G. 2011. First off the mark : early seed germination. *J. Exp. Bot.* 62(10):3289-3294

Whaibi, H.A. 2010. Plant heat-shock proteins : a mini review. *Journal of King Saud University-Science* 23(2):139-150

Wobus, U and Weber, H. 1999. Seed maturation: genetic programs and control signals. *Curr. Opin. in Plant Biol.* 2:33-38

Wu, , C.T., Leubner-Metzger, G., Meins Jr., F. and Bradford, K.J. 2001. Class I- $\beta$ -1,3-glucanase and chitinase are expressed in the micropylar endosperm of tomato seeds prior to radicle emergence. *Plant Physiol.* 126:1299-1313

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



UNIVERSITAS  
GADJAH MADA

DORMANSI DAN PERKECAMBAHAN BIJI FLAMBOYAN [Delonix regia (Hook) Raf.] DITINJAU DARI  
ASPEK ANATOMIS,  
FISIOLOGIS, DAN BIOKIMIAWI  
SOLICHATUN, Prof (emr).Dr. Santosa; Dr. Kumala dewi, M.Sc.St.; Dra. Rarastoeti Pratiwi, M.Sc. Ph.D.

Universitas Gadjah Mada, 2016 | Diunduh dari <http://etd.repository.ugm.ac.id/>

Yan, D., Duermeyer, L., Ieoveanu, C., and Nambara, E. 2014. The functions of the endosperm during seed germination. *Plant Cell Physiol.* 55(9):1521-1533

Yan-Fang, R., Jun-Yu, H., and Xiao-feng, W. 2007. Changes in activities of three enzymes degrading galactomannan during and following rice seed germination. *Rice science.* 14(4): 295-301

Zhao, Y., Sioux, K., Christensen, C., Fankhauser, J.R., Cashman, J.D., Cohen, D.W., and Joanne, C. 2001. A role of flavin monooxygenase-like enzymes in auxin biosynthesis. *Science.* 291 Issue 5502:306-309.