

**DEVELOPMENT OF DORMANCY IN SEEDS OF
SAPIUM SEBIFERUM (L.) ROXB. DURING MATURATION**

Jing Hou, Hailin Liu, Qiuyue Ma, Wenting Wei, Tongming Yin, and Shuxian Li*

159 Longpan Road, The Southern Modern Forestry Collaborative Innovation Center,
Nanjing Forestry University, 210037 Nanjing, China,
*Fax: + 1186-25-85427402, *E-mail: shuxianli@njfu.com.cn

REFERENCES

- AMEN R. D. (1968). A model of seed dormancy. *Botanical Review*, 34: 1-31.
- BAI T. H., YIN R., LI C. Y., MA F. W., YUE Z. Y., SHU H. R. (2011). Comparative analysis of endogenous hormones in leaves and roots of two contrasting *Malus* species in response to hypoxia stress. *Journal of Plant Growth Regulation*, 30: 119-127.
- BEWLEY J. D., BLACK M. (1978). *Physiology and biochemistry of seeds*, vol.1, Springer-Verlag, New York, 306 pp.
- BHATTACHARYYA S., DAS B., GHOSE T. K., BHATTACHARYA S. (1999). Investigation on seed germination of *Nyctanthes arbor-tristis* (Oleaceae) in relation to the total phenol content. *Seed Science and Technology*, 27: 321-327.
- BOUYON C., BULARD C. (1986). Heterogeneity of dormancy in apple embryos: a link with chlorophyll formation and content of abscisic acid. *Journal of Experimental Botany*, 37: 1643-1651.
- BRADY S. M., MCCOURT P. (2003). Hormone cross-talk in seed dormancy. *Journal of Plant Growth Regulation*, 22: 25-31.
- EL-ARABY M. M., MOUSTAFA S. M. A., ISMAIL A. I., HEGAZ Z. A. (2006). Hormone and phenol levels during germination and osmopriming of tomato seeds, and associated variations in protein patterns and anatomical seed features. *Acta Agronomica Hungarica*, 54: 441-457.
- FINCH-SAVAGE W. E., LEUBNER-METZGER G. (2006). Seed dormancy and the control of germination. *New Phytologist*, 171: 501-523.
- GUO J. J., ZENG Q. N., EMAMI M., ELLIS B. E., CHEN J. G. (2008). The GCR2 gene family is not required for ABA control of seed germination and early seedling development in arabidopsis. *PLoS One*, 3: e2982.
- GUTIERREZ L., VAN WUYTSWINKEL O., CASTELAIN M., BELLINI C. (2007). Combined networks regulating seed maturation. *Trends in Plant Science*, 12: 294-299.
- ISTA, INTERNATIONAL SEED TESTING ASSOCIATION (2011). *International Rules for Seed Testing*. Zurich, Switzerland.
- JOHN V. J., DAVID W. P., ANDRE T. P., RICHARD P. R., LEWIS N. M. (2002). Abscisic acid, phaseic acid and gibberellin contents associated with dormancy and germination in barley. *Physiologia Plantarum*, 115: 428-441.
- KUCERA B., COHN M. A., LEUBNER-METZGER G. (2005). Plant hormone interactions during seed dormancy release and germination. *Seed Science Research*, 15: 281-307.
- LI S. X., LIU J. J., TIAN S. X., YIN T. M. (2011). Study on the causes of *Sapium sebiferum* seed dormancy and the methods for dormancy breaking. *Journal of Nanjing Forestry University*, 35: 1-4 (in Chinese).
- LI S. X., GU H. B., MAO Y., YIN T. M., GAO H. D. (2012). Effects of tallow tree seed coat on seed germination. *Journal of Forestry Research*, 23: 229-233.
- PAWLOWSKI T. A. (2009). Proteome analysis of Norway maple (*Acer platanoides* L.) seeds dormancy breaking and germination: influence of abscisic and gibberellic acids. *BMC Plant Biology*, 48: 1-13.
- PHARTYAL S. S., THAPLIYAL R. C., NAYAL J. S., JOSHI G. (2003). Seed dormancy in Himalayan maple (*Acer caesium*) II: Bioassay of inhibitors. *Seed Science & Technology*, 31: 13-20.
- PINFIELD N. J., GWARAZIMBA V. E. E. (1992). Seed dormancy in *Acer*: The role of abscisic acid in the regulation of seed development in *Acer platanoides* L. *Plant Growth Regulation*, 11: 293-299.
- POTTS W. M. (1946). The Chinese tallow tree as a chemurgic crop. *The Chemurgic Digest*, 22: 374-375.
- RITCHIE S., GILROY S. (1998). Gibberellins: regulating genes and germination. *New Phytologist*, 140: 363-383.
- RUSKIN F. R., ECKHOLM E. (1983). *Firewood crops: shrub and tree species for energy production*. Vol. 2, National academy press, Washington, D.C. 92 pp.
- SHANG X., XU X., FANG S. (2012). Identification and quantitative analysis of germination inhibitors in the pericarp of *Cyclocarpya paliurus* (Batal) Iljinskaja. *Propagation of Ornamental Plants*, 12: 195-201.
- SINGH Z., BROWNING G. (1991). The role of ABA in the control of apple seed dormancy, reappraised by combined gas chromatography-mass spectrometry. *Journal of Experimental Botany*, 42: 269-275.
- SUDHAKAR N., NAGENDRA-PRASAD D., MOHAN N., BRADFORD H., GUNASEKARAN M., MURUGESAN K. (2011). Assessing influence of ozone in tomato seed dormancy alleviation. *American Journal of Plant Sciences*, 2: 443-448.
- WEILER E. W., JORDAN P. S., CONRAD W. (1981). Levels of indole-3-acetic acid in intact and decapitated coleoptiles as determined by a specific and highly sensitive solid-phase enzyme immunoassay. *Planta*, 153: 561-571.
- WHITE N. W., PROEBSTING W. M., HEDDEN P., RIVIN C. J. (2000). Gibberellins and seed development in maize. I. Evidence that gibberellin/abscisic acid balance governs germination versus maturation pathways. *Plant Physiology*, 122: 1081-1088.
- YANG P. Q., KINGHORN A. D. (1985). Coumarin constituents of the chinese tallow tree (*Sapium sebiferum*). *Journal of Natural Products*, 48: 486-488.
- YUAN Y., LIU Y. J., HUANG L. Q., CUI G. H., FU G. F. (2009). Soil acidity elevates some phytohormone and β -eudesmol contents in

roots of *Atractylodes lancea*. Russian Journal of Plant Physiology, 56: 133-137.

ZHANG P. (2008). The dormancy and germination physiology of Manchurian ash seeds in different development stage. PhD Dissertation, Northeast Forestry University, 97 pp. (in Chinese).