

## REFERENCES

- Abdelkheir, R.M. Ibrahim, A. and Khalil, A. (2003). Provenance variation in seed and germination characteristics of *Acacia karoo*, Sudan Silva 9(2) 2003.
- Abrames, M.D. (1988). Sources of variation in osmotic potentials with special reference to Northern America tree species. For. Sci. 34: 1030-1046.
- Abrams, M. D., Kubiske, M. E. and Steiner, K. C. (1990). Drought adaptations and responses in five genotypes of *Fraxinus pennsylvanica* MARSH. photosynthesis, water relations and leaf morphology. Tree Physiol. 6: 305 - 315.
- Akıncı, S. (1997) physiological responses to water stress by *Cucumis sativus* L. and related species. Ph. D. Thesis, University of Sheffield. U. K.
- Allan, E. J., T Stuchbury and A. L. Mordue (Luntz) (1999). *Azadirachtin indica* A Juss (Neem Tree): In vitro culture, micropropagation and the production of azadirachtin and other secondary metabolites . Biotechnology in Agriculture and Forestry, vol 43, Medicinal and Aromatic Plants XI, Y P S Bajaj ed. Springer-Verlag Berlin Heidelberg.
- Anonymous, (1986). The useful plants of India, Publication and Information Directorate, CSIR, New Delhi.
- Anonymous, (2006). Neem - Growing neem, organic farming, health, animal health, environmental use, home uses, economic potential, patents, new bazaars, research papers, world neem conference. Neem foundation (Internet) Mumbai, India. Available from: <http://www.neemfoundation.org>.
- Arnold, R.J. and Cuevas, E. (2003). Genetic variation in early growth, stem straightness and survival in *Acacia crassicarpa*, *A. mangium* and *Eucalyptus urophylla* in Bukidnon province, Philippines. Journal of Tropical Forest Science 15(2): 332-351.
- Arora, R.K., (1993). Genetic diversity and ethnobotany. Neem Res Dev. 3: 33-37.
- Arya, S., Toky, O.P., Bisht, R.P., Tomar, R. and Harris, P.J., (1995). Provenances variation in seed germination and seedling

- growth of *Prosopis cineria* (L.) produce in arid india. *Silvea Genetica* 44:55-60.
- Badi KH., Elhoury A. and Bayoumi, AM. (1989). The forests of the Sudan. Agricultural research Council, Khartoum, Sudan.
- Becker, P. (1992). Seasonality of rainfall and drought in Brunei Darussalam. *Brunei Mus J* 7:99-109.
- Becker, P. Wong, M. (1993). Drought-induced mortality in tropical heath forest. *J Trop Sci* 5:416-417.
- Berjak P, Pammenter NW., (2004). Aspects of our understanding of the biology and responses of non orthodox seeds. In AG Taylor, XL Huang, eds, *Progress in seed research*, Cornell University Press, Ithaca, NewYork, pp 81-100.
- Bewley, J.D. and Krockko, J.E. (1982). Desiccation tolerance. In Lange O.I. Noble. *Physiological plant ecology water relation and carbon assimilation* . Encyclopedia of plant physiological, New series, volume 12.
- Bisht, N.S and Ahlawat, S.P. (1999). Seed technology, State forest researchin statute department of environment & forests Government of Arunachal Pradesh, Itanagar-79 111 1(India).
- Bongarten, B. C. and Teskey, R. O. (1986). Water relation of loblolly pine seedlings from diverse geographic origins. *Tree Physiol.* 1: 265 - 276.
- Bongers F, Poorter L, Van Rompaey RSAR, Parren MPE (1999). Distribution of twelve moist forest canopy tree species in Liberia and Cote d'Ivoire: response curves to a climatic gradient. *J Veg Sci* 10:371-382
- Bottner, P., Couteaux, M. M. and Vallejo, V. R. (1995) Soil organic matter in mediterranean-type ecosystems and global climatic changes: A case study-the soils of the mediterranean basin. *Global change and Mediterranean-type ecosytems. Ecological studies*, Vol. 117. (ed. by JoseM. Moreno, Walter C. Oechel), pp. 306-325.Springer-Verlag, New York.
- Boyle, T.G.P., Cossulter, C. and Grittin, A.R., (1997). Genetic resources for plantation forestry pp. 25-62.
- Burslem DFRP, Grubb PJ, Turner IM (1996). Responses to simulated drought and elevated nutrient supply among

- shadetolerant tree seedlings of lowland tropical forest in Singapore. *Biotropica* 28:636-646.
- Callaham, R. Z. (1964): Provenance research: investigation of genetic diversity associated with geography. *Unasylva* 18(2 - 3): 40 - 50 (1964).
- Chamberlain, D.E., Wilson, A.M., Browne, S.J. and Vickery, J.A. (1999). Effects of habitat type and management on the abundance of skylarks in the breeding season. *J.Appl. Ecol.* 36: 856- 870.
- Chamberlain, J.R., Childs, F.J. and Harris, P.J.C. (2000). An introduction to neem, its use and genetic improvement, Improvement of neem (*Azadirachta indica*) and its potential benefits to poor farmers in developing countries. Forestry Research Programmer of the Renewable Natural Resources Knowledge Strategy Department for International Development (DFID) R7348. 01.04.99 - 31.12.99.
- Chen, J.M., Pavlic,G., Brown, L., Cihlar, J., Leblanc, S.G., White, H.P., Hal, R.J., Pedd, D.R., King, D.J., Trofymow, J.A., Swift, E., Van der Sanden, J. and Pellikka, P.K.E. (2002). Derivation and validation of Canada-wide coarse-resolution leaf area index maps using high-resolution satellite imagery and ground measurements. *Remote Sensing of Environment* 80 (2002) 165 - 184.
- Condit R (1998). Ecological implications of changes in drought patterns: shift in forest composition in Panama. *Clim Change* 39:413-427.
- Condit R, Hubbell, S.P. and Foster, R.B. (1995). Mortality rates of 205 neotropical tree and shrub species and the impact of severe drought. *Ecol Monogr* 65:419-439.
- Coronado, M.S., Coates, R., L. C., Buen, A.G., Valencia, J.B. and Barradas, V.L. (2007). Improving seed germination and seedling growth of *Omphalea oleifera* (Euphorbiaceae) for restoration projects in tropical rainforest, *Forest Ecology and Management* 243 (2007) 144-155- science Direct ELSEVEIR.

- Cregg, B.M. (1993). Seed sources variation in water relations gas exchange, and needle morphology of mature ponderosa pine trees. *Can. J. For. Res.* 23:749-755.
- Cerda, A., Garcia-Fayos, P. (2002). Influence of seed size and shape on their removal by water erosion. *Catena* 48: 293-301.
- Csurhes, S. (2008). Pest plant risk assessment: Kidneyleaf mudplaintain *Heteranthera reniformis*. Brisbane, Queensland: Biosecurity Queensland Department of Primary Industries and Fisheries.
- Currie DJ, Paquin V (1987) Largescale biogeographical patterns of species richness of trees. *Nature* 329:326-327.
- Cutini, A. and Nocentini, L. (2000). Response of *Quercus petraea* and *Quercus cerris* seedlings to different light and water condition. *Monti-e-Boschi (Italy)*. 49:134-138.
- Dangasuk, O.G., Seuri, P. and Gudu, S. (1997). Genetic variation in seed and seedling traits in 12 African provenances of *Faidherbia albida* (Del) A. Che. At Lodwar Kenya, *Agroforestry System*: 133-141, 1997. Kluwer Academic Publisher.
- De Jussieu, A. (1963). *Azadirachta indica* and *Melia azedarach*, silviculture characteristics and planting methods. *Rev. Bios. For. Trop.* No 88. 23 p.
- Debeaujon, I., Léon-Kloosterzie, K.M. and Koornneef, M. (2000). Influence of the Testa on Seed Dormancy, Germination, and Longevity in *Arabidopsis*. *Plant Physiology*, 122, 403-414.
- Dickman, D.I., Liu, Z., Nguyen, P. V and Pregitez, K.S. (1992). Photosynthesis, water relations, and growth of two hybrid populous genotypes during a severe drought. *Can. T.For.Res* 22:1094-1106.
- Dwivedi, A. P., (1993). National level of neem improvement. Bangkok, Thailand, 18 to 22 January. pp. 18 - 28.
- Ekanayake, I., Garrity, J., Masajo, D. (1985). Inheritance of root characters and their relations to drought resistance in rice. *Crop Sci.* 25:927-933.
- El Shafie, H.A.F. and Almahy, A.A.M. (2012). Effect of storage conditions and duration on the potency of Neem (*Azadirachta indica* A. Juss) seeds as a home-made

- Insecticide. Agriculture and Biology Journal of North America ISSN Print: 2151-7517, ISSN Online: 2151-7525, doi:10.5251/abjna.2012.3.10.385.390.
- Elfeel, A.A., (1996). Provenance variation in seed characteristics, germination and early seedlings growth traits of *Acacia senegal* (L) wild in Sudan. M.Sc. thesis, University of Khartoum.
- Elmagboul, A.H., Mahgoup, S. and Eldoma, A. (2012). Variation in drought tolerance and survival among three provenances of *Acacia torilis* subspecies *Raddiana* and subspecies *Spirocarpa* seedlings. Asian Journal of Agricultural Sciences 4(2): 134-139.
- Elteraifi, I. E. (1996). Studies on seed conservation and propagation of the neem tree (*Azadirachta indica* A. Juss) in Sudan. M.Sc thesis, Khartoum University.
- Elteraifi, I. E.; Elnour, M. M. and Mahjoub, S. (2001). Effect of storage temperature, maturity stage and fruit pulp on viability of neem (*Azadirachta indica* A. Juss) seed in Sudan. Proc. of the IUFRO Symposium of 2001, Philippines, pp31-41.
- Elteraifi, I. E. and ALI, A. H. (2011). Oil and Azadirachtin contents of neem (*Azadirachta indica* A. Juss) seed kernels collected from trees growing in different habitats in Sudan. Int. J. Biol. Chem. Sci. 5(3): 1063-1072.
- Ezumah, B. S. (1986). Germination and storage of neem (*Azadirachta indica* A. Juss) seeds. Seed Sci Technol. 14: 593-600.
- Fenner, Michael (1985). Seed ecology. Published Chapman and Hall. ISBN 9780412259302.
- Fisher, B.L., Howe, H.F. and Wright, S.J. (1991). Survival and growth of *Virola surinamensis* yearlings: Water augmentation in gap and understory. Oecologia 86:292-297.
- Förster, P. and Moser, G. (2000). Status report on global neem usage. Universum Verlagsanstalt. 65175, Wiesbaden, GTZ, Eschborn, Germany, pp.8-28.
- Frankhan, R., Ballu, J.D. and Bricoe, D.A., (2002). Introduction to conservation genetic. Cambridge University Press.

- Gallé, A., Haldimann, P. and Feller, U. (2007). Photosynthetic performance and water relations in young pubescent oak (*Quercus pubescens*) trees during drought stress and recovery. *New Phytol.* 174, 799–810.
- Gamene, C.S., Kraak, H.L., Van Pijlen, J.G., De Vos, C.H.R. (1996). Storage behavior of neem (*Azadirachta indica*) seed from Burkina Faso. *Seed Scienc and Technology* 24, 441-448.
- Ganguli, S. (2002). Neem: Atheropeutic for all seasons. *Current Science*. Vol. 82, no. 11, June pp. 1304.
- Gentry, A.H. (1988). Changes in plant community diversity and floristic composition on environmental and geographical gradients. *Ann Miss Bot Gard* 75:1-34.
- Girish, K. and Bhat, S.S. (2008). Neem - A Green Treasure, *Electronic Journal of Biology*, 2008, Vol. 4(3):102-111.
- Govender, M., Dye, P. J., Weiersbye, I. M., Witkowski, E. T. F., and Ahmed, F. (2009). Review of commonly used remote sensing and ground-based technologies to measure plant water stress, *Water SA*, Vol. 35 No. 5, pp. 741-752, <http://www.sabinet.co.za>.
- Graudal L., Kjaer, E., Thomsen, G. and Larsen, A.B. (1997). Planning national programmes for conservation of forest genetic resources. Technical Note No. 48, Danida Forest Seed Centre.
- Gradual, L., Kiaer, E., Thomson, G. and Larsen, A.B., (1997). Planting national programme for conservation of forest genetic resource. Technical Note No. 48, Danida Forest Seed Centre.
- Hamrick, J.L., (1994). Genetic diversity and conservation in tropical forests. In proceeding from the international symposium on genetic conservation and production of tropical forest tree seeds. Asian Canadian Forest Tree Centre Project, Muak. Lek, Saraburi, Thailand.
- Hamza, M. E. (1990). *Trees and shrubs of the Sudan*. Ithaca Press, Exeter, UK.
- Hong T.S., Ellis, R.H. (1998). Contrasting seed storage behavior among different species of Meliaceae. *Seed Science and Technology* 26, 77-95. [http://dx.doi.org/10.1016/S1872-2032\(07\)60063-8](http://dx.doi.org/10.1016/S1872-2032(07)60063-8).

- Huang, Z. Zang, X., Zheng, G. and Gutterman, Y. (2003). Influence of light, temperature, salinity and storage on seed germination of *Haxloxylon annodendron*, Journal of Arid Environments 55 (2003) 453-464.
- Hill, J., H.C. Becker and P.M.A. Tigerstedt, 1998. Quantitative and Ecological Aspects of Plant Breeding. Chapman & Hall, UK, p. 275.
- IPCC, (2007). Summary for policymakers. In: Salomon, S., Qin, D., Manning, M., Chen, Z., Marquis, M., Averyt, K.B., Tignor, M., Miller, H.L. (Eds.), Contribution of Working Treatment I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. The Physical Science Basis. Cambridge University Press, New York, NY, p. 433.
- ISTA (International Seed Testing Association), (1993). International rules for seed testing. Seed Sci. and Technol.
- Jacobson, M. (1986). Neem research and cultivation in the western hemisphere. In Natural Pesticides from the Neem tree (*Azadirachta indica* A. Juss) and other tropical plants. Proc. 3<sup>rd</sup> Int. Neem Conf. (Nairobi 1986), pp 703 GTZ Eschborn, Germany. Pp 33-44.
- Jindal, S.K., Kachar, N.L. and Solanki, K.R., (1983). Interrelationship between shoot dry weight and components in *Acacia senegal* (L) wild. Progeny. Nitrogen Fixing Tree Research Report. 16.17.
- Jones, H.G. (1993). Drought tolerance and water-use efficiency. In Water Deficits: Plant Responses from Cell to Community. Eds. J.A.C. Smith and H. Griffiths. BIOS Scientific Publishers, Oxford, U.K., pp 193--203.
- Jensen, J.S., Mtika, J. and Iversen, P. (2004). Assessment of provenance trials with *Azadirachta* species on multiple sites in Tanzania. Forest Genetics 11 (1): 63-72.
- Khalil, A. A. M. and Grace, J. (1992). Acclimation to drought in *Acerpseudo platanus* L. (Sycamore) seedlings. Journal of Experimental Botany, 43(257): 1591-1602.
- Khan, F.H. and Tahir, H. R. (2004). An overview and analysis of site remediation technologies. Journal of Environmental Management 71 (2004) 95-122.

- Knothe, G. (2005). Dependence of biodiesel fuel properties on the structure of fatty acid alkyl esters. *Fuel Process Technol* 86:1059-1070.
- Koul, O., Isman, M. B. and Ketkar, C. M. (1990). Properties and uses of neem *Azadirachta indica*. *Can. J. Bot.* 68: pp 1-11.
- Kramer, P. J. (1980). Drought, stress, and the origin of adaptations. Adaptations of plants to water and high temperature stress. (ed. by Neil C. Turner, Paul J. Kramer) pp. 7-20. John-Wiley & Sons, New York.
- Kramer, P.J. (1983). Water relations of plants. Academic press. New York.
- Krishnan, B. and Toky, O.P., (1995). Provenance variation in seed germination and seedling growth of *Acacia nilotica* spp *indica*. *Journal of tropical forest science* 8:78-86.
- Kundu, S.K. (2000). Evaluation of provenance variation on early growth and survival of neem (*Azadirachta indica*) in Bangladesh and India. *Journal of Trop For Sci.* 12(3): 509-523.
- Kundu, S.K. and Tigerstedt, P.M.A. (1997). Geographical variation in seed and seedling traits of neem (*Azadirachta indica* A. Juss.) among ten populations studied in growth chamber. *Silvae Genetica* 46:129-137.
- Kundu, S.K., Islam, Q.N., Emmanuel, C.J.S.K. and Tigerstedt, P.M.A. (1998). Observations on genotype x environment interactions and stability in the international neem (*Azadirachta indica* A. Juss.) provenance trials in Bangladesh and India. *Forest Genetics* 5:85-96.
- Kureel, R.S., Kishore, R., Dutt, D. (2009). Neem- A tree borne oilseed: National Oilseeds and Oils Development Board (Ministry of Agriculture, Government, of India) Plote No. 86, Sector-18, Institutional Area, Gurgaon: Website: [www.novodboard.com](http://www.novodboard.com). Consulted on the 6<sup>th</sup> of April 2012.
- Leadem, C. (1996). A Guide to the Biology and Use of Forest Tree Seeds. Province of British Columbia, Ministry of Forests Research Program.
- Lacaze, J.F., (1978). Advances in species and provenances selection. *Unasyuva*, 30(119-120): 17-20.



- Li, C. (1998). Variation of seedling traits of *Eucalyptus microtheca* origins in different watering regimes, *Silvae Genetica*, 47, 2-3.
- Li, C. (1999). Drought adaptation and genetic diversity in *Eucalyptus microtheca* Doctoral thesis, University of Helsinki, Department Forest Ecology. Tropical Forest report, 18.
- Li, C. and Wang, K. (2003). Difference in drought responses of the three contrasting *Eucalyptus microtheca* F.muell. Population. *Forest Ecology and Management* 179: 377-385.
- Lieth, H. (1975) Primary production of the major vegetation units of the world. In: Lieth H, Whittaker RH (eds) Primary productivity of the biosphere. Springer, Berlin Heidelberg New York, pp 203-231.
- Maelim, S., Bhumibhamon, S. and Thavorn V. (2003). Provenance variation on certain morphological characteristics of Timor white gum (*Eucalyptus urophylla* S.T. Blake) at Lad Krating Plantation, Chachoengsao. In the Proceedings of 41st Kasetsart University Annual Conference, 3-7 February Subject: Plants and Agricultural Extension and Communication.
- Mahjoub, S. (2001). Effect of storage temperature, maturity stage and fruit pulp on viability of neem (*Azadirachta indica* A. Juss) seed in Sudan. Proc. of the IUFRO Symposium of 2001, Philippines, pp31-41.
- Mahmood, S., Ali, S., Bhatti, M.H., Mazhar, M. and Iqbal, R. (2003). Synthesis, Characterization and Biological Applications of Organotin(IV) Derivatives of 2-(2-Fluoro-4-biphenyl)propanoic Acid, *Turkish Journal of Chemistry*, 27, 657-666.
- Maithani, G.P., Bahuguna, V.K., Rawat, M.M.S. and Sood, O.P. (1989). Fruit maturity and inter related effects of temperature and container on longevity of neem (*Azadirachta indica*) seeds. *Indian Forester* 115: 89-97.
- Marunda, C.T. (1993). Geographical variation and physiological studies in *Faidherbia albida* (Del) A. Chev. M.Sc. thesis, Australian National University.

- Mary, N., Baldwyn, T., Bart, G.J. and Knols, A.H. (2004). Laboratory evaluation of some eastern African Meliaceae as sources of larvicidal botanicals for *Anopheles gambiae*. *International Journal of Tropical Insect Science*, 24: 311-318.
- Milberg, B.P. and Lamont, B.B. (1997). Seed/cotyledon size and nutrient content play a major role in early performance of species on nutrient-poor soils. *New Phytol* 137: 665-672.
- Mitchell, J.W. (1968). Methods of studying plant hormones and growth-regulating substances. This handbook supersedes *Agriculture Handbook No. 126*, Washington, D.C.
- Morgenstern, E.K., (1996). Geographical variation in forest trees. Genetic basis and application of Knowledge in Silviculture. P. 24-27.
- Ogbuewu I. P, Okoli I. C. and Iloeje, M. U. (2010). Linear Growth and Reproductive Tract Morphometry in Rabbit Does fed with Leaf Meal of Neem (*Azadirachta indica*, A. Juss). *Afr. J. Biomed. Res.*, 13: 207 - 212.
- Orwa, C., Mutua, A., Kindt, R., Jamnadass, R., Anthony, S. (2009). Agroforestry Database: a tree reference and selection guide version 4.0 (<http://www.worldagroforestry.org/sites/treedbs/treedatabases.asp>)
- Parker, W. C. and Pallardy, S. G. (1991). Gas exchange during a soil drying cycle in seedlings of four black walnut (*Juglans nigra* L.) families. *Tree Physiol.* 9: 339 - 384
- Patiwal, K. and Kannan, D. (1999). Growth and nutritional characteristics of four woody species under nursery conditions and growth after transplantation in semi-arid field conditions at Madurai, India. *Journal of Arid Environments* (1999) 43:133-141.
- Pliske, T.E. (1983). The establishment of neem plantations in the American tropics. Pp.521-526 in Schmutterer, H. and Ascher, K.R.S. (Eds.) *Natural Pesticides from the Neem Tree and Other Tropical Plants*. Rauschholzhausen, Germany.
- Pulkkinen, P. and Tigerstedt, M.A. (1992). The form and mass of coarse-root and root-shoot relationship in *Picea abies* and

- Picea abies* f. *pendula*. Scandinavian Journal of Forest Research 7: 463-472.
- Raddad, A.Y. (2007). Ecological and genetic variation in seedlings traits and in first-year field performance of eight *Acacia senegal* provenances in Blue Nile, Sudan, Springer/ New Forest.do, 11056-007-9049-4.
- Rajawat, M. S., Rai, R., Chowdhury, T., Jayant, B. V. and Nagora, P. R., (1994). Provenance trial of neem at Jodhpur (India). *Neem- News Letter of International Neem Network*. 1 (1): 12 - 16.
- Ranney, T.G, Whitlow, T.H. and Bassuk, L., D. (1990). Response of five temperate deciduous tree species to water stress. *Tree Physiology*, 6, 439-488. 1990 Heron publishing, Victoria Canada.
- Rathore, M., Tripathi, Y.C. and Kumar, S. 1998. Inter-dependence of seed quality, oil and protein content with reference to neem seeds from different origins. *Annals of Agri-Bio Research* 3: 133-138.
- Reichard, S.H. and White P. ( 2001). Horticulture as a Pathway of Invasive Plant Introductions in the United States. *BioScience* 51(2): 103-113.
- Rengasamy, S., Kaushik, N., Kumar, J., Koul, O. and Pamar, B.S. (1993). Azadirachtin content and bioactivity of some neem ecotypes of India. In *Neem - 116 -and Environment*, Vol. I Edit. R.P. Singh; M.S. Chari; A.K. Raheja and W. Karus. pp. 207-217. Scientific Publisher, INC. USA.
- Richards, P.W. (1998). *The tropical rain forest: an ecological study*, 2nd edn. Cambridge University Press, Cambridge.
- Richardson, D.M., Pysek, P., Rejmánek, M., Barbour, M.G., Panetta, F.D. and West, C.J. (2000). Naturalization and invasion of alien plants: concepts and definitions. *Diversity and Distribution* 6(2): 93-107
- Roederer, Y. and Bellefontaine, R. (1989). Can neem seeds be expected to keep their germinative capacity for several years after collection? *Forest Genetic Resources Information* No. 17: 30-33.
- Roy, M.M., (1985). Seed polymorphism and germination in *Albizia lebbek*. *Van Vigyan* 23:23-28.

- Saad, M.S. and Rao, V. R. (2001). E establishment and management of field genebank. A training manual IPGRI-APO, Serdang. IPGRI is a Future Harvest Centre supported by the Consultative Group on International Agricultural Research (CGIAR).
- Sacande M, De Vos, C.H.R., Hoekstra, F.A., Bino, R.J. and Groot, S.P.C. (1996). Intermediate storage behavior of neem tree (*Azadirachta indica*) seeds from Burkina Faso. In: Ouedraogo AS, Poulsen K, Stubsgaard F, eds. Improved methods for the handling and storage of intermediate/recalcitrant tropical forest trees. Rome. Italy: International Plant Genetic Resources Institute (IPGRI), 103-106.
- Sacande M., Hoekstra, F.A., Van Pijlen, J.G. and Groot, S.P.C. (1998). A multi factorial study of condition influencing neem (*Azadirachta indica*) seed storage longevity. Seed science Research 8, 473-482.
- Sacande, M. (2000). Stress ,storage and survival of neem seed PhD thesis of Wageningen University-Subject Headings: neem, chilling ,desiccation, glassy state,membranes,seedstorage,tropics. ISBN90-5808-210-5.
- SAS Institute Inc. (1996). SAS user's guide. Version 6.11. SAS Institute Inc., Cary, NC.
- Scande, M., Glovina, E. A.,Van Aelst A. and Hoekstra, F. A. (2001). Viability loss of neem (*Azadirachta indica*) seeds associated with membrane phase behaviour. Journal of Experimental Botany. Vol. 52, No 358, pp. 919-931. May 1, 2001@ 2001 Oxford University press.
- Schmutterer, H. (1995). The Neem Tree: Source of unique natural products for integrated pest management, Medicine, Industry and Other Purposes. VCH, FRG.
- Seyed, Y. S., Lisar, R.M., Mosharraf, M.H. and Ismail M. M. R. (2012). Water Stress in Plants: Causes, Effects and Responses, Water Stress, Prof. Ismail Md. Mofizur Rahman (Ed.), ISBN: 978-953-307-963-9, InTech, Available from: <http://www.intechopen.com/books/water-stress/water-stress-inplants-causes-effects-and-responses>.
- Siddig, N.S.A. (2009). Effect of Time and Storage Methods on Efficacy of Neem (*Azadirachta indica* A Juss.) Seeds

- Against Two Insects Species Namely the Red Flour Beetle, *Tribolium castaneum* (Herbst) and the Mosquito, *Culex quinquefasciatus* (Say). PhD thesis, University of Khartoum- Sudan.
- Singh, B.P., Kaur and Gauchan, D.P. (2002). Flora anatomy and systematic position of the genus *Balanites*. *Acta Botanica Hungarica*. 44(1/2): 137-143.
- Schmidt, L. (2000). Guide to handling of tropical and subtropical forest seed. Danid Forest Seed Center, Hmelblak, Denmark.
- Smith, E. H. and Whitman, R. C. (1992). Field Guide to structural pests. National pest Management Association, Dunn Loring, VA.
- Sollins, P. (1998.). Factors influencing species composition in tropical lowland rainforest: Does soil matter? *Ecology* 79:23-30.
- Souza, M.L. and Fagundes, M. (2014). Seed Size as Key Factor in Germination and Seedling Development of *Copaifera langsdorffii* (Fabaceae), *American Journal of Plant Sciences*, 2014, 5, 2566-2573 Published Online July 2014 in SciRes.
- Sridharan, S., Venugopal, M.S., Dhaliwal, G.S., Arora, R., Randhawa, N.S. and Dhawan, A.K. 1998. Effect of environmental conditions on the yield of azadirachtin and oil in neem. In: *Ecological agriculture and sustainable development: Volume 1*. Indian Ecological Society and the Centre for Research in Rural and Industrial Development, Chandigarh, India. pp. 510-518.
- Surendran, C., Rai, R., Sivagnanam, S. M., Kumaran, K., Regupathi, A., Vanangamudi, K. and Vimala, I., (1993). Tree improvement and seed management in Indian neem. Bangkok, Thailand. 18 - 22 January. pp. 29 - 39.
- Teketay, D. (1997). Germination ecology of *Acacia negrii* and endemic multipurpose tree from Ethiopian. *Tropical Ecology* 38: 39-46.
- Thomsen, A. and Souvannavong, O. (1994). The international Neem Network. *Forest Genetic Resources* 22: 49-51.

- Tobin, M.F., Lopez, O.R. and Kursar, T.A. (1999). Responses of tropical understory plants to a severe drought: tolerance and avoidance of water stress. *Biotropica* 31:570-578
- Toma, T., Marjenah, H. (2000). Climate in Bukit Soeharto, East Kalimantan. In: Guhardja E, Fatawi M, Sutisna M, Mori T, Ohta S (eds) *Rainforest ecosystems of East Kalimantan. El Nio, drought, fire and human impacts*. Springer, Berlin Heidelberg New York, pp 107-117.
- Tompsett, P.B. (1994). Capture of genetic resources by collection and storage of seeds: a physiological approach. In Leakey RRB, Newton AC, eds., *Tropical trees: the potential for domestication and the rebuilding of forest resources*. ITE Symposium No 29, ECTF Symposium No 1, London, HMSO, pp 61-71.
- Tuomela A.K., Kanninen, M. (1995). Effect of water vapour pressure deficit and soil water content on leaf water potential between selected provenances of *Euclyptus microtheca* in an irrigated plantation, Eastern Kenya. *Silva Fennica (Finlandia)* 29(3): 217-224.
- Tuomela, K. (1997). Physiological and morphological response of *Eucalyptus microtheca* provenances to water viability in tropical dry lands. PhD thesis, Tropical Forestry reports (13). University of Helsinki, Department of Forest Ecology.
- Turner, I.M. (1990). The seedling survivorship and growth of three Shoreaspecies in a Malaysian tropical rain forest. *J Trop Ecol* 6:469-478.
- Turner, N.C. (1986). Adaptation to water deficit: A changing perspective. *Australian Journal of Plant Physiology* 13: 175-190.
- UN, Human Development Report (2006). *Beyond scarcity: Power, poverty and the global water crisis*. Accessed: 8 August 2011.
- Veerendra, H. C., (1995). Variation studies in provenances of *Azadirachta indica* (the neem tree). *Indian For.* 121(11): 1053 - 1056.
- Walsh, R.P.D. (1998). Climate. In: Richards PW (ed) *The tropical rain forest: an ecological study*, 2nd edn. Cambridge University Press, Cambridge, pp 159-202.

- Walsh, R.P.D. and Newbery, D.M. (1999). The ecoclimatology of Danum, Sabah, in the context of the world's rainforest regions, with particular reference to dry periods and their impact. *Phil Trans R Soc Lond B* 354:1391-1405.
- Webb, C.O. and Peart, D.R. (2000). Habitat associations of trees and seedlings in a Bornean rain forest. *J Ecol* 88:464-478.
- West, H.D., Chappelka, A.H., Tilt, K.M. and Ponder, H.D. (1996). Effect of tree shelters on survival, growth and wood quality of 11 tree species commonly planted in the Southern United States. *Journal of Arboriculture*. 25:69-75.
- Westoby, M., Falster, D.S., Moles, A.T., Vesk, P.A. and Wright, I.J. (2002). Plant ecological strategies: Some Leading Dimensions of Variation between Species. *Ar reviews in advance* 10.1146/annurev.ecolsys.33.010802.15045
- Whitmore, T.C. (1984). *Tropical rainforests of the Far East*, 2nd edn. Oxford University Press, Oxford.
- Wilson T.B., and Witkowski, E.T.F. (1998). Water requirements for germination and early seedling establishment in four African savanna woody plant species. *Journal of Environments* (1998) 38:541-550.
- Windsor, D.M. (1990). *Climate and moisture availability in a tropical forest. Long-term records from Barro Colorado Island, Panama*. Smithsonian Institution Press.
- Wunderle, J.M. (1997). The role of animal seed dispersal in accelerating native forest regeneration on degraded tropical lands. *Forest Ecology and Management* 99, 223-235.
- Wyllie-Echeverria, S. and Ackerman, J. D. (2003). The seagrasses of the Pacific coast of North America, p. 199-206. In E. P. Green, and F. T. Short, *World atlas of seagrasses*. UNEP World Conservation Monitoring Center, University of California Press, Berkeley, CA.
- Yanlong, H., Mantang, W., Shujun, W., Yanhui, Z., Tao, M. and Guozhen, D. (2007). Seed Size Effect on Seedling Growth under Different Light Conditions in the Clonal Herb *Ligularia virgaurea* in Qinghai-Tibet Plateau. *Acta Ecologica Sinica*, 27, 3091-3108.
- Zhang, J. (1998). Variation and allometry of seed weight in *Aeschynomene americana*. *Annals of Botany* 82, 843-847.

- Zipperer, W.C. (2002). Species composition and structure of regenerated and remnant forest patches within an urban landscape. *Urban Ecosystems* 6(4): 271-290.
- Zobel, B. and Talbert, J. (1984). *Applied Forest Tree Improvement*. Wiley, New York. 504 pp.