

# Scientific papers on ‘Taper functions’

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*21 ago 2018*

## Introduction

### 2018 Forest Inventory course - First results of the collective assignment

Students, as homework, were asked to search for scientific papers presenting ‘taper functions’ and to compile a collective Rmarkdown document shared using GIT.

Rearranging their work, this document lists their findings.

## Analysed articles

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Article ID 1 : (*Scolforo, McTague, Raimundo, et al., 2018*)

**Comparison of taper functions applied to eucalypts of varying genetics in {Brazil}: application and evaluation of the penalized mixed spline approach**

Student	NA
Title.student	Comparison of taper functions applied to eucalypts of varying genetics in Brazil: Application and evaluation of the penalized mixed spline approach
Authors.student	Scolforo, H.F., McTague, J.P., Raimundo, M.R., Weiskittel, A., Carrero, O., Scolforo, J.R.S.
Year.student	2017
Species	Eucalypts
Base.URL	\url{http://www.nrcresearchpress.com/doi/10.1139/cjfr-2017-0366#.W2Sb6Lhx02w}
Paper.local.file	NA
Equations	NA

Article ID 2 : (*Warner, Jamroenprucksa, and Puangchit, 2016*)

**Development and evaluation of teak ({Tectona} grandis {L}.f.) taper equations in northern {Thailand}**

Student	Angelo Manca
Title.student	Development and evaluation of teak (Tectona grandis L.f.) taper equations in northern Thailand,
Authors.student	Andrew J. Warner, Monton Jamroenprucksa, Ladawan Puangchit,
Year.student	2016
Species	Tectona grandis L.f.
Base.URL	\url{https://www.sciencedirect.com/science/article/pii/S2452316X16302459?via%3Dihub}
Paper.local.file	1-s2.0-S2452316X16302459-main.pdf
Equations	\includegraphics[width=0.8\textwidth]{Equations/2016WarnerEtAl.png}

Article ID 3 : (*Tang, P  rez-Cruzado, Fehrmann, et al., 2016*)

**Development of a {Compatible} {Taper} {Function} and {Stand}-{Level} {Merchantable} {Volume} {Model} for {Chinese} {Fir} {Plantations}**

Student	NA
Title.student	Development of a Compatible Taper Function and Stand-Level Merchantable Volume Model for Chinese Fir Plantations
Authors.student	Xiaolu Tang,C��sar P��rez-Cruzado,Lutz Fehrmann,Juan Gabriel ��lvarez-Gonz��lez,Yuanchang Lu,and Christoph Kleinn,
Year.student	2016
Species	Cunninghamia lanceolata [Lamb.] Hook
Base.URL	\url{https://www.ncbi.nlm.nih.gov/pubmed/26799399}
Paper.local.file	pone.0147610.pdf
Equations	\includegraphics[width=0.8\textwidth]{Equations/2016TangEtAl.png}

Article ID 4 : (*Corral-Rivas, Vega-Nieva, Rodr  guez-Soalleiro, et al., 2017*)

**Compatible {System} for {Predicting} {Total} and {Merchantable} {Stem} {Volume} over and under {Bark}, {Branch} {Volume} and {Whole}-{Tree} {Volume} of {Pine} {Species}**

Student	Maria Chiara Ruggiu
Title.student	Compatible System for Predicting Total and Merchantable Stem Volume over and under Bark, Branch Volume and Whole-Tree Volume of Pine Species”
Authors.student	Jos�� Javier Corral-Rivas, Daniel Jose Vega-Nieva, Roque Rodr��guez-Soalleiro, Carlos Antonio L��pez-S��nchez, Christian Wehenkel, Benedicto Vargas-Larreta, Juan Gabriel ��lvarez-Gonz��lez and Ana Dar��a Ruiz-Gonz��lez.
Year.student	2017
Species	Pinus cooperi, Pinus durangensis
Base.URL	\url{http://www.mdpi.com/1999-4907/8/11/417}
Paper.local.file	forests-08-00417-v2.pdf
Equations	\includegraphics[width=0.8\textwidth]{Equations/2017Corral-RivasEtAlOb.png}
Equations	\includegraphics[width=0.8\textwidth]{Equations/2017Corral-RivasEtAlUb.png}

Article ID 5 : (*Sun, Liang, Liang, et al., 2016*)

**Deriving {Merchantable} {Volume} in {Poplar} through a {Localized} {Tapering} {Function} from {Non}-{Destructive} {Terrestrial} {Laser} {Scanning}**

Student	Matteo Piccolo
Title.student	Deriving Merchantable Volume in Poplar through a Localized Tapering Function from Non-Destructive Terrestrial Laser Scanning
Authors.student	Yuan Sun, Xinlian Liang, Ziyu Liang, Clive Welham and Weizheng Li
Year.student	2016
Species	Populus $\times$ canadensis Moench cv.
Base.URL	\url{http://www.mdpi.com/1999-4907/7/4/87/htm}
Paper.local.file	forests-07-00087.pdf
Equations	\includegraphics[width=0.8\textwidth]{Equations/2016Sunetal.png}

Article ID 6 : (*Martins, Debastiani, Pelissari, et al., 2017*)

**Estimativa do {Afilamento} do {Fuste} de {Araucária} {Utilizando} {Técnicas} de {Inteligência} {Artificial}**

Student	NA
Title.student	Araucaria Stem Taper or Use of Artificial Intelligence Techniques
Authors.student	Ana Paula Marques Martins, Aline Bernarda Debastiani, Allan Libanio Pelissari, Sebastião do Amaral Machado, Carlos Roberto Sanquetta
Year.student	2017
Species	Araucaria angustifolia
Base.URL	\url{http://www.scielo.br/scielo.php?script=sci_arttext&pid=S2179-80872017000100152}
Paper.local.file	2179-8087-floram-24-e20160234.pdf
Equations	NA

Article ID 7 : (*Silva, Rodriguez, Caixeta Filho, et al., 2006*)

**Fitting a taper function to minimize the sum of absolute deviations**

Student	NA
Title.student	Fitting a taper function to minimize the sum of absolute deviations
Authors.student	Lana Mirian Santos da Silva, Luiz Carlos Estraviz Rodriguez, José Vicente Caixeta Filho; Simone Carolina Bauch
Year.student	2006
Species	Eucalyptus
Base.URL	\url{http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0103-90162006000500007}
Paper.local.file	31406.pdf
Equations	NA

Article ID 8 : (*Arnoni Costa, Guimarães Finger, Schneider, et al., 2016*)

**{FUN   FO} {DE} {AFILAMENTO} {E} {SORTIMENTOS} {DE} {MADEIRA} {PARA} {Araucaria} angustifolia**

Student	NA
Title.student	Taper function and timber assortments for Araucaria angustifolia
Authors.student	Emanuel Arnoni Costa, César Augusto Guimarães Finger, Paulo Renato Schneider, André Felipe Hess
Year.student	2016
Species	Araucaria angustifolia
Base.URL	\url{http://www.redalyc.org/articulo.oa?id=53446151016}
Paper.local.file	53446151016.pdf
Equations	NA

Article ID 9 : (*Souza, Chassot, Finger, et al., 2008*)

**Modelos de afilamento para o sortimento do fuste de *Pinus taeda* L**

Student	NA
Title.student	Taper function for assortment of <i>Pinus taeda</i> L. stem
Authors.student	Carlos Alberto Martinelli de Souza, Tatiane Chassot, César Augusto Guimarães Finger, Paulo Renato Schneider, Frederico Dimas Fleig
Year.student	2008
Species	<i>Pinus taeda</i> L
Base.URL	\url{http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0103-84782008000900014}
Paper.local.file	a14v38n9.pdf
Equations	NA

Article ID 10 : (*Arias-Rodil, Castedo-Dorado, Cámara-Obregón, et al., 2015*)

**Fitting and Calibrating a Multilevel Mixed-Effects Stem Taper Model for Maritime Pine in NW Spain**

Student	NA
Title.student	Fitting and Calibrating a Multilevel Mixed-Effects Stem Taper Model for Maritime Pine in NW Spain
Authors.student	Manuel Arias-Rodil, Fernando Castedo-Dorado, Asunción Cámara-Obregón, Ulises Diéguez-Aranda
Year.student	2015
Species	<i>Pinus pinaster</i> Ait.
Base.URL	\url{http://europepmc.org/backend/ptpmcrender.fcgi?accid=PMC4668033&blobtype=pdf}
Paper.local.file	pone.0143521.pdf
Equations	NA

Article ID 11 : (*Rodríguez, Lizarralde, and Bravo, 2015*)

**Comparison of stem taper equations for eight major tree species in the {Spanish} {Plateau}**

Student	NA
Title.student	Comparison of stem taper equations for eight major tree species in the Spanish Plateau
Authors.student	Francisco Rodríguez1, Iñigo Lizarralde1 and Felipe Bravo
Year.student	2015
Species	Various
Base.URL	\url{http://revistas.inia.es/index.php/fs/article/view/6229}
Paper.local.file	6229-27194-1-PB.pdf
Equations	NA

Article ID 12 : (*Návar, Rodríguez-Flores, and Domínguez-Calleros, 2013*)

**Taper functions and merchantable timber for temperate forests of northern {Mexico}**

Student	NA
Title.student	Taper functions and merchantable timber for temperate forests of northern Mexico
Authors.student	J. Návar, F. de Jesús Rodríguez-Flores, P.A. Domínguez-Calleros
Year.student	2013
Species	P.pseudostrobus, P. hartwegii, P. cooperi, P. ayacahuite, Q. spp, P. durangensis, P. leiophylla, P. teocote, P. arizonica, Quercus spp
Base.URL	\url{http://www.editurasilvica.ro/afr/56/1/navar.pdf}
Paper.local.file	navar.pdf
Equations	NA

Article ID 13 : (*Özçelik and Dirican, 2017*)

**Stem taper and volume models for natural cedar and {Taurus} fir mixed stands in {Bucak} {District}**

Student	NA
Title.student	Individual taper models for natural cedar and Taurus fir mixed stands of Bucak Region, Turkey
Authors.student	Ramazan Özçelik, Osman Dirican
Year.student	2017
Species	Cedrus libani A. Rich., Abies cilicica Carr.
Base.URL	\url{http://dergipark.gov.tr/download/article-file/330518}
Paper.local.file	10.17099-jffiu.290845-330518.pdf
Equations	NA

Article ID 14 : (*Machado, Urbano, and Conceição, 2005*)

**Comparação de métodos de estimativa de volume para {Pinus} oocarpa em diferentes idades e diferentes regimes de desbastes**

Student	NA
Title.student	Comparação de Métodos de Estimativa de Volume para Pinus oocarpa em Diferentes Idades e Diferentes Regimes de Desbastes
Authors.student	Sebastião do Amaral Machado, Edilson Urbano, Marcio Barbosa da Conceição
Year.student	2005
Species	Pinus oocarpa
Base.URL	\url{https://pfb.cnpf.embrapa.br/pfb/index.php/pfb/article/view/242/193}
Paper.local.file	242-1027-1-PB.pdf
Equations	NA



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