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ORIGINAL PAPER

# Database of 478 allometric equations to estimate biomass for Mexican trees and forests

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**Abstract**

• ***Key message*** **We present a comprehensive database of 478 allometric equations to estimate biomass of trees and other life forms in Mexican forest and scrubland ecosystems.**

• ***Context*** Accurate estimation of standing biomass in forests is a prerequisite for any approach to carbon storage and a number of additional applications.

• ***Aims*** To provide a comprehensive database with allometric equations applicable to a large number of tree and shrub species of Mexico.

• ***Methods*** An intensive literature search was carried out to pull together all publications related to allometric equations in the libraries of the most important forest research institutes across Mexico and the neighboring countries.

• ***Results*** A total of 478 equations were compiled. Four hundred fourteen equations included a detailed analysis of all compartments of the trees; 7 equations applied to shrubs, 15 to bamboos, and 2 to palms. The collected equations are applicable to a wide variety of forest ecosystems in Mexico ranging from desert scrublands in the North to lowland evergreen rainforests in the South. The attached database of allometric equations is possibly the most extensive compilation of equations currently available for Mexico.

• ***Conclusion*** The database covers almost 100 % of the individuals recorded in the National Forest Inventory.

**Keywords** Biomass · Database · Allometric equations

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**Contribution of the co-authors** Fabiola Rojas-García: compilation of allometric equation database and metadata; writing of methodology and parts of the results and discussion; and elaboration of Fig. 2
Bernardus H.J. de Jong: database analysis and writing of introduction, results and discussion, and elaboration of Tables and Fig. 1
Pablo Martínez-Zurimendí: compilation of a part of the database and contributions to the discussion section
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## 1 Introduction

The accurate estimation of forest biomass has been crucial for many applications: the commercial use of wood produced in studies of forest production (Morgan and Moss 1985), correlation of forest biomass with stand density (Baskerville 1965), in studies comparing biomass and production for individual tree species (Pastor and Bockheim 1981), in studies on forest fuel estimation (Agee 1983), and recently, to determine the role of forest biomass in the global carbon (C) cycle (Bombelli et al. 2009). Allometric equations are the most commonly used tool to estimate volume or biomass from forest inventory data (e.g., species, tree diameter, and height). Despite their importance, existing

equations are often scattered over forest research centers, forest administrations, logging companies, and libraries (FAO 2013). The need for accurate equations is driven by the increasing need for information of biomass in forests for climate policy definition and formulation (cf. REDD+), which requires reliable estimations of carbon in forest ecosystems (e.g., Brown 2001; Wirth et al. 2003; Joosten et al. 2004; Rosenbaum et al. 2004). The estimation of the total above-ground biomass (TAGB) with an accuracy that allows the modeling of increments or decrements in carbon stored in the forest over relatively short periods of time (2–10 years) is increasingly required (Basuki et al. 2009). Under the United Nations Framework Convention on Climate Change (UNFCCC) and the 5-year forest resources assessments of FAO, countries need to report regularly the state of their forest resources, biomass densities, and carbon stocks and the results of emerging mechanisms such as Reducing Emissions from Deforestation in Developing Countries (REDD) that will require temporally and spatially fine-grained assessments of carbon stocks (UNFCCC 2008).

Many models are developed for single tree species with different levels of uncertainty (Fehrmann and Kleinn 2006; Návar 2009a). There have also been various attempts to derive more flexible models, applicable for many species or for specific ecosystems, by meta-analysis of published equations to generate an operational database to be used in compliance with the Kyoto protocol (Zianis and Mencuccini 2004; Chave et al. 2005; Zianis et al. 2005; Návar 2010a, b). These models may be adequate to estimate biomass at a national or regional scale, but these may not correctly reflect the tree biomass in a specific area or project (Segura and Kanninen 2005).

The most accurate method for the estimation of biomass is through cutting of trees and weighing of their parts. This destructive method is often used to validate other less intensive and costly methods such as the estimation of carbon stock using nondestructive in-situ measurements and remote sensing (Clark et al. 2001; Wang et al. 2003). Allometric equations developed on the basis of sparse measurements from destructive sampling of trees along a range of tree sizes are statistically related to more easily collected biophysical properties of trees, such as diameter at breast height, wood density, and total height (Basuki et al. 2009) by means of allometric equations. Diameter at breast height is the most commonly used parameter in forest inventories, whereas height normally is measured in a subset of trees to develop diameter-height curves (Bravo et al. 2007).

In Mexico, there have been attempts to review and compile the available equations. Návar (2009a) did a review of equations developed to estimate biomass components of trees and shrubs of different forest communities in arid, semi-arid, subtropical, tropical, and temperate Latin-American ecosystems. De Jong et al. (2009) compiled a database of allometric equations for tree species or genera and equations at the level of ecosystems to estimate the biomass of the trees measured in the national forest inventory This paper is a continuation of the previous efforts to present an overview of the most accessible equations available in the literature to estimate biomass and carbon of Mexican tree species and forests. Henry et al. (2013) stressed the importance of such compilations of equations and pointed out that these should be made available in easy to use databases.

In this study, allometric equations developed for woody species growing in Mexico are compiled, and a database was developed to be used for forest above-ground biomass estimation (stem plus branches and foliage) at the level of individual tree species, species groups, genera, and ecosystems of Mexican forests. These can either be used to estimate biomass in certain forest stands or for national estimations of biomass. We tested the equation data base, to see to what extent it covers the total number of individuals registered in the national forest inventory, carried out between 2004 and 2007.

## 2 Methods

An extensive revision of the literature was carried out to locate publications with allometric equations to estimate biomass in woody plants of Mexico. In the case of conventional publications (scientific papers and indexed peer-reviewed books), publicly available search engines were used such as Science Direct, Google Academic, Redalyc, and Scopus. Additionally, an extensive search was carried out to locate the so-called grey publications such as thesis, reports, and extensive summaries published in the proceedings of scientific meetings. Physical or virtual visits to academic institutions were carried out to locate these types of publications. In both cases, a series of keywords with logical operators were used to select the relevant literature: biomass, above-ground biomass, above-ground forest biomass, total tree weight, carbon content of biomass, carbon sequestration, harvestable volume, expansion factors for trees, biomass expansion factor, biomass density, carbon density, allometric equations, allometric equations to estimate biomass, and regression models. Once a document with an allometric equation was located, the relevant information was extracted and systematically put into a database with various fields: species, genus, life form, type of vegetation, size of the plant, age of the vegetation, climatic

characteristics, type of management, type of allometric equation, and their variables used, among others. More general equations were also put into the database recording the same information such as equations applicable for genera or groups of species, equations applicable for specific ecosystems, and generic type of equations. The equations are grouped according to life form and independent variables used to calculate biomass, type of allometric equation, forest type for which the equation is applicable, and the number of equations in each common plant family. To test the potential of the database, we estimated the number of individuals covered by a biomass equation that are recorded in the National Forest and Soil Inventory 2004–2009 (INFyS). The individuals of the INFyS that were determined at the level of species were taken into consideration (tree, shrub, bamboo, and palm).

The scientific names were analysed with the package Taxonstand version 1.0 (Cayuela et al. 2012) within the R-software environment (R Development Core Team 2012) to correct the scientific names due to taxonomic revisions, orthographic corrections, and elimination of synonyms validating the names according to the latest revisions by taxonomic experts (The Plant List 2010).

We classified the species into the following three groups: (1) species for which the equation database contained an equation at the level of species, (2) species with an equation at the level of genus, and (3) species that are covered by an equation developed for a certain group of species or ecosystem. Once the name of the plants in the INFyS database was checked for consistency, the number of plant records, for which some type of equation was available, was counted.

## 3 Results

### 3.1 Literature review

The extensive search for literature included physical and virtual visits to a total of 42 national institutes of higher education and research and 4 foreign institutes. A total of 29 scientific journals were searched with a variety of search engines. A total of 225 documents were located, such as scientific papers, thesis, and extensive memories of scientific events. Each document was checked to evaluate its relevance for the database, as the search with keywords also detected papers, which used allometric equations developed by other authors. As such, a total of 80 documents were selected, from which all relevant data were extracted and inserted in the general database, so as to provide information on the species, the range of the independent variables and site-specific characteristics. Duplicate publications (thesis converted to scientific paper) were eliminated if these contained the same information, which resulted in a final list of 69 documents.

**Table 1** Number of equations for each life form and the component evaluated

| | | Life form | | | | |
|---|---|---|---|---|---|---|
| Stock | Component | Tree | Shrub | Palm | Bamboo | Total |
| Above-ground biomass | Branches | 11 | | | 3 | 14 |
| | Foliage | 8 | | | 4 | 12 |
| | Leaves + branches | 35 | | | | 35 |
| | Stem | 46 | | | 4 | 50 |
| | Support roots | | | | | 1 |
| | Whole individual | 293 | 47 | 2 | 4 | 346 |
| Belowground biomass | Roots | 5 | 8 | | | 13 |
| Carbon content | Whole individual | 15 | | | | 15 |
| Total | | 414 | 47 | 2 | 15 | 478 |

### 3.2 Extracted information

A total of 478 allometric equations were collected from the literature to estimate total biomass, carbon in biomass, aboveground biomass, or root biomass for trees (414), shrubs (47), bamboos (15), and palms (2; Table 1).

About 150 equations were specifically developed for one species, whereas 15 equations were developed at the level of genus, and 26 equations were applicable for a group of species or species within a certain ecosystem.

Most of the equations estimated total biomass, although some used an additive formula, summing separately estimated biomass of trunks, branches and leaves, or other parts. The most common variables used in the equations were diameter at breast height (DBH, in 384 equations) and total height (TH, in 96 equations; Table 2).

Other variables used include diameter at other heights (0.30 in 49 equations, 0.10 in 15 equations, and basal diameter in 32 equations), basal area (BA, 19 eq.), crown diameter (DC, 1 eq.), crown height (HC, 3 eq.), trunk volume (Vol, 10 eq.), and stem basal perimeter (BP, 1 eq.; Table 2).

The non-linear equation was the most common type of model published (295 equations) followed by the

**Table 2** Number of equations according to life form and independent variables used in the equation

| Life form | Variables | Number of equations |
|---|---|---|
| Tree | BA, TH | 17 |
| | $D_{0.30}$, TH | 4 |
| | $D_{0.30}$ | 3 |
| | DBH,WD | 1 |
| | DBH, TH, WD | 4 |
| | DBH | 320 |
| | DBH, TH | 43 |
| | $D_{0.10}$ | 2 |
| | $D_{0.0}$, TH | 5 |
| | BP | 1 |
| | RC1, RC2 | 1 |
| | Vol | 10 |
| Shrub | BA, TH | 2 |
| | DC | 1 |
| | RC1, RC2, HC | 3 |
| | $D_{0.10}$ | 13 |
| | $D_{0.0}$ | 9 |
| | $D_{0.0}$, TH | 18 |
| | TH | 1 |
| Bamboo | DBH | 15 |
| Palm | DBH, TH | 2 |
| Total | | 478 |

*BA* basal area, *TH* total height, $D_{0.30}$ diameter of the stem at 30 cm, *DBH* diameter at breast height (1.30 m), *WD* wood density, $D_{0.10}$ diameter of the stem at 10 cm, $D_{0.0}$ basal diameter of the stem, *BP* basal perimeter of the stem, *RC1, RC2* radii of two orthogonal diameters of the crown, *Vol* volume of the trunk with bark, *DC* average diameter of the tree canopy, *HC* height of the tree canopy

exponential type of equations (112 eq.), whereas 52 equations were polynomial, two linear and 17 equations had at least part of the variables expressed at a logarithmic scale (Table 3).

**Table 3** Number of allometric equations according to equation type

| Type of equation | Number of equations |
|---|---|
| Linear equation | 2 |
| Polynomial equation | 52 |
| Exponential equation | 112 |
| Non-linear equation | 295 |
| Logarithmic equation | 17 |

**Table 4** Number of equations recorded according to type of forest

| Ecoregion | Forest type | Number of equations |
|---|---|---|
| Upland forests | Cultivated forest | 41 |
| | Conifer forest | 18 |
| | Pine forest | 73 |
| | Pine-oak forest | 78 |
| | Oak forest | 6 |
| | Cloud forest | 32 |
| Scrublands | Scrubland | 59 |
| | Submontane scrubland | 21 |
| Lowland forests | Deciduous forest | 95 |
| | Semi-deciduous forest | 25 |
| | Semi-evergreen forest | 4 |
| | Evergreen forest | 15 |
| | Inundated forests (including mangroves) | 11 |

Most of the equations were applicable for species belonging to seven upland forest types (228 equations), whereas 150 equations were found for five lowland forest types, whereas 80 equations are associated with two types of scrubland vegetation (Table 4).

Taking into consideration the taxonomic representation, the highest number of equations were developed for species belonging to the *Pinaceae* (mostly *Pinus*), which represents the family with the most important commercial species, followed by *Fabacea* and *Fagaceae*, also economically important

**Table 5** Number of equations applicable to species within the most common Mexican plant families

| Plant family | Number of equations |
|---|---|
| Pinaceae | 132 |
| Fabaceae | 73 |
| Fagaceae | 50 |
| Euphorbiaceae | 15 |
| Poaceae | 15 |
| Asteraceae | 11 |
| Malvaceae | 11 |
| Burseraceae | 10 |
| Rutaceae | 10 |
| Remaining families (45) | 122 |
| Equations for species of more than one family | 29 |

**Table 6** Application of allometric equations for *Pinus patula* to data of trees recorded in the national forest inventory

| Allometric equation | State of Mexico | DAP minimum (cm) | DAP maximum (cm) | All records INFyS | INFyS records |
|---|---|---|---|---|---|
| Pacheco 2011 | Oaxaca | 5.0 | 30.0 | $R^2$=0.945 | $R^2$=0.947 |
| Castellanos et al. 1996 | Puebla | 5.0 | 45.0 | $R^2$=0.935 | $R^2$=0.943 |
| Díaz 2005 | Tlaxcala | 6.7 | 64.1 | $R^2$=0.894 | $R^2$=0.932 |

families; all together, these three families covered by about 50 % of all equations (Table 5). Various *Pinus* species had more than one equation, developed in different geographic entities. (See Table 6.)

For Pinus patula, a total of 14 equations have been published; of which, seven estimate total above-ground biomass with varying range of diameters for which the equations are applicable. For example, Pacheco (2011) developed the equation in the state of Oaxaca for individuals with DBH between 5 and 30 cm Castellanos *et al*. (1996): in Puebla, with indidividuals with DBH between 5 and 45 cm; and Díaz (2005) in Tlaxcala, with a range of DBH between 6.7 and 64.1 cm.

Comparing the outcome of the three models, estimating the biomass of individuals registered in the national inventory, shows that they do not differ much even outside the range of diameters for which they were developed (Fig. 1).

The models were developed in 26 out of 32 federal states, with the highest numbers of equations in Durango and Chihuahua; both are very important wood-producing states.

Some models were developed for species occurring in more than one state (Návar et al. 2004a, b; Návar 2009a, b; Návar 2010a, b). In the Appendix, we present all the equations of the database.

Most of the reports include some measures of confidence of the equation to replicate the results, such as the proportion of variance explained by the model, the difference between the estimator and the real value, or standard error.

### 3.3 Potential use of the equations

To test the extent to which the collected equations apply to the national forest inventory data, we compared the equation database with the 1,023,723 individuals recorded in the National Forest and Soil Inventory 2004–2009 (INFyS). The INFyS contain individuals belonging to 2623 species of 787 taxonomic genera. After the analysis

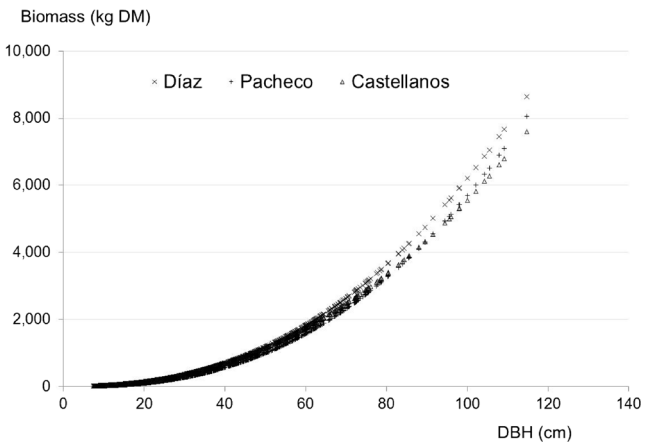


**Fig. 1** Application of three published models of *Pinus patula* to all data of the species recorded in the national inventory Castellanos et al. 1996; Pacheco 2011; Díaz 2005

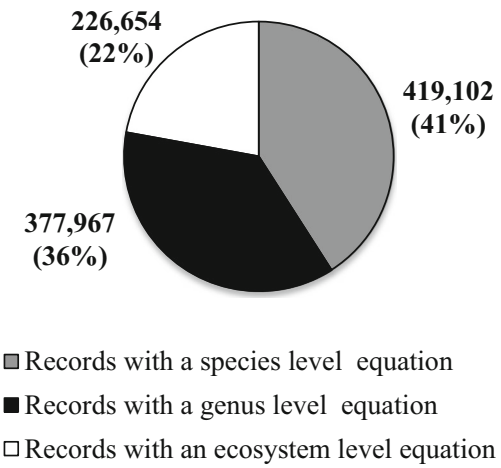


**Fig. 2** Number and percentage of woody species registered in the National Forest Inventory (2004–2007) that have an allometric equation that correspond to one particular species, to species groups, and to ecosystem type

with Taxonstand, the inventory contained 2175 species of 708 genera.

A total of 41 % of the individuals of the INFyS were covered by a specific equation, 36 % by an equation developed for a genus, and the remaining 22 % were almost completely covered by either a species group or ecosystem equation. Thus, almost 100 % of the individuals of the INFyS are covered one or more nationally developed allometric equation to estimate the biomass (Fig. 2).

## 4 Discussion

The allometric models for woody plant species of Mexico cover a wide range of species and forest ecosystems, parameters used to relate biomass to tree structural variables, and type of regression. More than 40 % of the individuals recorded in the INFyS 2004–2009 are covered by a species-specific allometric equation. Biomass can be estimated with equations that have been developed either for the same species, species belonging to the same genus or ecosystem, each with their specific level of uncertainty. Application of empirical equations outside the region from which they were developed or extrapolation of biomass estimated beyond the range of the independent variables could unpredictably increase uncertainty. If the equation is developed for smaller trees, applying it to trees much larger than the range increases substantially the uncertainty of the estimation (Brown 1997).

In order to reduce the uncertainty of the models in relation to applying these to trees outside the dimensions for which the model was developed or outside the ecological condition where the sampled trees occurred, or other factors that may create the uncertainty in the estimations, a sampling procedure needs to be designed to validate, simplify or adjust the available models, such as the small trees sampling scheme proposed by Zianis and Mencuccini (2004) or the non-sampling scheme methodology proposed by Návar (2010a, b), who applied the Central Limit Theorem for equations of neighboring tree species or genus. Bayesian analysis may also provide the means to circumvent such caveats, as well.

Due to the high diversity of tree species, it is not efficient to develop models for each species. Validating and improving models developed for certain ecosystems may be a viable solution, such as the incorporation of wood density as an independent variable (Urquiza-Haas et al. 2007; Chave et al. 2014).

Also, equations that use total height (TH) and DBH as independent variables are generally more widely applicable than equations with only DBH, as these may capture better the variation in the DBH/TH ratio due to ecological conditions. Návar et al. (2013) found that other more complex variables such as tree slenderness (DBH/TH), tree cylindrical (VOL/($DBH^2TH$)) or a compound form factor (DBH/TH*VOL/($DBH^2TH$)) explain much more above-ground variability than H alone, and avoid multicollinearity problems. Furthermore, height is often difficult to measure, particularly in dense tropical forests. Equally, if ecological conditions of the trees in the inventory are very different from the conditions where the equation was developed, the tree architecture may change substantially (Rykiel 1996; Oldeman 1990). Particularly in countries like Mexico where a high variety of ecological conditions and management practices may create a high variety in architectural structures of the trees of the same species, it is important to estimate the error associated with this variation. Other factors that may influence the distribution of biomass and as such the uncertainty in biomass estimations, are related to the openness or closeness of the canopy, where more biomass is allocated to branches in trees growing in open spaces, compared to the same species in closed canopies (see also Dietze et al. 2008). As such, the slenderness, cylindrical or composite form factors introduced by Návar (2010b) explain physically this variance.

The type of equation may also influence its applicability outside the range for which it was developed. Non-linear models of the type $B=a.\ DBH^b$ are more robust outside the range for which these are developed (e.g., see Fig. 1) and as these approach the fractal allometry of B in relation to DBH (West et al. 1999; Zianis and Mencuccini 2004) in contrast to polynomial models that often present abnormal behavior outside its range, such as negative values or reducing the estimation with increasing DBH.

## 5 Conclusions

Mexico possesses a great wealth of allometric equations to estimate biomass of a high variety of tree species or forest ecosystems. This paper tries to compile the most accessible models published in the literature and to make these available for scientific research, developing national biomass estimations of the forest ecosystem, or to design a scheme to validate the use of each of them. Efforts to improve the database directed toward validating the models under different conditions with cost-effective sampling and modeling procedures, such as those proposed by Zianis and Mencuccini (2004), are key to reduce the uncertainties of the estimations of biomass.

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## Appendix

**Table 7** Allometric equations to estimate biomass of Mexican forests

| Stock [component] | Life form | Genus \| Species \| Species group vegetation | Equation | Unit of measure | Sample | r2 | SE | State of Mexico | Vegetation type associated | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| AGB [B] | Bamboo | *Bambusa oldhamii* | [Exp[2.75]*[DBH^1.82]] | g | 22 | 0.8000 | | Veracruz | CF | Castañeda et al. 2005 |
| AGB [B] | Bamboo | *Bambusa oldhamii* | [Exp[3.93]*[DBH^1.47]] | g | 22 | 0.4800 | | Veracruz | CF | Castañeda et al. 2005 |
| AGB [B] | Bamboo | *Bambusa oldhamii* | [Exp[3.40]*[DBH^1.70]] | g | 22 | 0.7500 | | Veracruz | CF | Castañeda et al. 2005 |
| AGB [F] | Bamboo | *Bambusa oldhamii* | [Exp[4.57]*[DBH^1.29]] | g | 22 | 0.7500 | | Veracruz | CF | Castañeda et al. 2005 |
| AGB [F] | Bamboo | *Bambusa oldhamii* | [Exp[4.36]*[DBH^1.48]] | g | 22 | 0.8300 | | Veracruz | CF | Castañeda et al. 2005 |
| AGB [F] | Bamboo | *Bambusa oldhamii* | [Exp[4.03]*[DBH^1.66]] | g | 22 | 0.8300 | | Veracruz | CF | Castañeda et al. 2005 |
| AGB [F] | Bamboo | *Bambusa oldhamii* | [Exp[4.59]*[DBH^1.36]] | g | 22 | 0.7400 | | Veracruz | CF | Castañeda et al. 2005 |
| AGB [S] | Bamboo | *Bambusa oldhamii* | [Exp[6.74]*[DBH^1.23]] | g | 22 | 0.7300 | | Veracruz | CF | Castañeda et al. 2005 |
| AGB [S] | Bamboo | *Bambusa oldhamii* | [Exp[5.46]*[DBH^1.89]] | g | 22 | 0.7500 | | Veracruz | CF | Castañeda et al. 2005 |
| AGB [S] | Bamboo | *Bambusa oldhamii* | [Exp[4.48]*[DBH^2.43]] | g | 22 | 0.9300 | | Veracruz | CF | Castañeda et al. 2005 |
| AGB [S] | Bamboo | *Bambusa oldhamii* | [Exp[5.66]*[DBH^1.70]] | g | 22 | 0.8300 | | Veracruz | CF | Castañeda et al. 2005 |
| AGB [WI] | Bamboo | *Bambusa oldhamii* | [Exp[6.85]*[DBH^1.24]] | g | 22 | 0.7700 | | Veracruz | CF | Castañeda et al. 2005 |
| AGB [WI] | Bamboo | *Bambusa oldhamii* | [Exp[5.75]*[DBH^1.84]] | g | 22 | 0.7900 | | Veracruz | CF | Castañeda et al. 2005 |
| AGB [WI] | Bamboo | *Bambusa oldhamii* | [Exp[5.07]*[DBH^2.23]] | g | 22 | 0.9500 | | Veracruz | CF | Castañeda et al. 2005 |
| AGB [WI] | Bamboo | *Bambusa oldhamii* | [Exp[6.02]*[DBH^1.64]] | g | 22 | 0.8700 | | Veracruz | CF | Castañeda et al. 2005 |
| AGB [WI] | Palm | *Astrocaryum mexicanum* | [[Exp[3.6272]]*[[DBH^2*TH]^0.5768]]*[1.02]/1000000 | Mg | 15 | 0.7300 | | Veracruz | ETF | Hughes et al. 1999 |
| AGB [WI] | Palm | *Chamaedorea* | [[Exp[3.6272]]*[[DBH^2*TH]^0.5768]]*[1.02]/1000000 | Mg | 15 | 0.7300 | | Veracruz | ETF | Hughes et al. 1999 |
| AGB [WI] | Shrub | *Acacia berlandieri* | [[0.006009]+[0.241108*TH]+[0.000847*[$D_{0.0}$^2*TH]]−[0.47883*[ln[TH]]]]+[[1.946]+[0.01667*[$D_{0.0}$^2*TH]]]+[[−0.8765]+[0.541821*$D_{0.0}$]] | kg | 79 | 0.7600 | | Coahuila, Nuevo León, Tamaulipas | TT | Návar et al. 2004a |
| AGB [WI] | Shrub | *Acacia farnesiana* | | kg | 18 | 0.9500 | | | TT | Návar et al. 2004a |



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**Table 7** (continued)

| Stock [component] | Life form | Genus \| Species \| Species group vegetation | Equation | Unit of measure | Sample | r2 | SE | State of Mexico | Vegetation type associated | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | [[1.1856]+[0.7046*$D_{0.0}$]−[2.9935*[ln $D_{0.0}$]]]+ [[18.48]+[13.01*$D_{0.0}$]−[53.9*[ln $D_{0.0}$]]+ [[−4.4576]+[1.4946*$D_{0.0}$]]] | | | | | Coahuila, Nuevo León, Tamaulipas | | |
| AGB [WI] | Shrub | *Acacia rigidula* | [[0.2984]−[0.3663*TH]+[0.8857*[ln TH]]+ [0.001589*[$D_{0.0}$^2*TH]]]+[[1.7299]− [1.7568*TH]+[0.02176*[$D_{0.0}$^2*TH]]+ [1.1115*[ln[$D_{0.0}$ $D_{0.0}$^2*TH]]]+[[0.5772]+ [0.011244*[$D_{0.0}$^2*TH]]]] | kg | 78 | 0.9200 | | Coahuila, Nuevo León, Tamaulipas | TT | Návar et al. 2004a |
| AGB [WI] | Shrub | *Apoplanesia paniculata* | [10^[−0.8092]*[BA*0.94*TH]^[0.8247]] | kg | 214 | 0.9500 | | Jalisco | TDF | Martínez-Yrizar et al. 1992 |
| AGB [WI] | Shrub | *Atriplex canescens* | [[−1.424]+[2.781]]*[DC] | kg | 51 | 0.5700 | 1.041 | Zacatecas | DS | Castañuela 2013 |
| AGB [WI] | Shrub | *Baccharis conferta* | [Exp[4.0021135+[[0.018134*TH]/100]]] | kg | 20 | 0.7250 | | Veracruz | PF | Mendoza and Galicia 2010 |
| AGB [WI] | Shrub | *Baccharis ramulosa* | [101.089]*[[3.1416]*[[[[$D_{0.10}$^2]/4]]^0.99]] | g | 9 | 0.9900 | | Distrito Federal | XS | Cano 1994 |
| AGB [WI] | Shrub | *Baccharis ramulosa\| Bouvardia ternifolia\| Brickellia veronicifolia \| Calliandra grandiflora\| Echeveria gibbiflora\| Eupatorium petiolare\| Iresine calea\| Lagascea rigida\| Loeselia mexicana\| Montanoa tomentosa\| Senecio praecox\| Stevia salicifolia\| Verbesina virgata* | [49.607]*[[3.1416]*[[[$D_{0.10}$^2]/4]]^1.186]] | g | 120 | 0.9550 | | Distrito Federal | XS | Cano 1994 |
| AGB [WI] | Shrub | *Bernardia myricaefolia* | [0.1498]−[0.0609*$D_{0.0}$]+[0.004448*[$D_{0.0}$^2 *TH]]+ [[−3.72131]+[0.24869*$D_{0.0}$]+ [5.1932*TH]−[10.4555*[ln TH]+[[3.7213]+ [0.248698*$D_{0.0}$]+[5.1932*TH]−[10.455*[ln TH]]]]] | kg | 52 | 0.8100 | | Coahuila, Nuevo León, Tamaulipas | TT | Návar et al. 2004a |
| AGB [WI] | Shrub | *Bouvardia ternifolia* | [48.618]*[[3.1416]*[[[[$D_{0.10}$^2]/4]]^1.3]] | g | 12 | 0.9460 | | Distrito Federal | XS | Cano 1994 |
| AGB [WI] | Shrub | *Brickellia veronicifolia* | [112.505]*[[3.1416]*[[[[$D_{0.10}$^2]/4]]^1.493]] | g | 10 | 0.8210 | | Distrito Federal | XS | Cano 1994 |
| AGB [WI] | Shrub | *Calliandra grandiflora* | [115.584]*[[3.1416]*[[[[$D_{0.10}$^2]/4]]^1.490]] | g | 5 | 0.9860 | | Distrito Federal | XS | Cano 1994 |
| AGB [WI] | Shrub | *Carlowrightia arizonica\| Justicia californica\| Matelea cordifolia\| Brickellia coulteri\| Encelia farinosa\| Trixis californica\| Bursera fagaroides\| Bursera laxiflora\| Bursera microphylla\| Mammilaria grahamii\| Opuntia gosseliniana\| Opuntia leptocaulis\| Opuntia thurberi\| Opuntia versicolor\| Peniocereus striatus\| Evolvulus alsinioides\| Ibervillea sonorae\| Adelia brandegeei\| Croton sonorae\| Jatropha cardiophylla\| Jatropha cordata\| Acacia willardiana\| Coursetia glandulosa\| Eysenhardtia orthocarpa\| Marina* | [340.308]*[[[3.1416]*RC1*RC2*HC]^1.115] | g | 779 | 0.7430 | | Sonora | DS | Búrquez et al. 2010 |

**Table 7** (continued)

| Stock [component] | Life form | Genus \| Species \| Species group vegetation | Equation | Unit of measure | Sample | r2 | SE | State of Mexico | Vegetation type associated | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| | | *parryi\| Mimosa distachya\| Nissolia schottii\| Parkinsonia microphylla\| Senna covesii\| Janusia californica\| Janusia linearis\| Abutilon incanum\| Passiflora foetida\| Cardiospermum corindum\| Lycium\| Ayenia filiformis\|* | | | | | | | | |
| AGB [WI] | Shrub | *Carlowrightia arizonica\| Phaulothamnus spinescens\| Matelea cordifolia\| Bebbia juncea\| Encelia farinosa\| Trixis californica\| Bursera laxiflora\| Mammilaria grahamii\| Mammilaria mainae\| Opuntia fulgida\| Opuntia leptocaulis\| Opuntia thurberi\| Opuntia versicolor\| Merremia palmeri\| Ibervillea sonorae\| Croton sonorae\| Jatropha cardiophylla\| Acacia constricta\| Caesalpinia palmeri\| Desmanthus covillei\| Eysenhardtia orthocarpa\| Marina parryi\| Mimosa distachya\| Nissolia schottii\| Olneya tesota\| Fouquieria macdougalii\| Krameria erecta\| Janusia californica\| Janusia linearis\| Mascagnia macropthera\| Abutilon incanum\| Randia obcordata\| Cardiospermum corindum\| Lycium\| Nicotiana glauca\| Phoradendron californicum\| Cissus trifoliata* | [356.983]*[[[3.1416]*RC1*RC2*HC]^1.416] | g | 783 | 0.9440 | | México | Sonora | DS |
| AGB [WI] | Shrub | *Celtis pallida* | [[−0.02387]+[0.071082*$D_{0.0}$]]+[[0.822031]−[0.3336*$D_{0.0}$]+[0.027934*[$D_{0.0}$^2*TH]]+[[−0.97513]+[0.622086*$D_{0.0}$]]] | kg | 27 | 0.9500 | | Coahuila, Nuevo León, Tamaulipas | TT | Návar et al. 2004a |
| AGB [WI] | Shrub | *Condalia hookeri* | [[−0.49169]+[0.119894*$D_{0.0}$]]+[[−1.34514]−[0.57648*$D_{0.0}$]+[0.036956*[$D_{0.0}$^2*TH]]−[0.07861*[ln[$D_{0.0}$^2*TH]]]+[[−2.28529]+[6.281245*TH]+[0.004902*[$D_{0.0}$^2*TH]]−[14.8795*[ln TH]]]] | kg | 29 | 0.8800 | | Coahuila, Nuevo León, Tamaulipas | TT | Návar et al. 2004a |
| AGB [WI] | Shrub | *Cordia boissieri* | [[−0.80889]+[0.708933*TH]+[3.4441*[ln[$D_{0.0}$]]]−[1.52967*[ln[$D_{0.0}$^2*TH]]+[[−5.1898]+[4.051755*TH]+[0.953933]−[8.3199*[ln TH]]]+[[0.402273][0.79265*TH]+[0.429856*$D_{0.0}$]+[0.007672]*[$D_{0.0}$^2*TH]]]] | kg | 96 | 0.7000 | | Coahuila, Nuevo León, Tamaulipas | TT | Návar et al. 2004a |
| AGB [WI] | Shrub | *Diospyros texana* | [[−0.4384]+[0.12124*[ln[$D_{0.0}$^2*TH]]+[0.072176*TH]]+[[3.32259]+[0.010964*[$D_{0.0}$^2*TH]]+[[0.937974]+[0.0126* [$D_{0.0}$^2*TH]]]]] | kg | 63 | 0.8900 | | Coahuila, Nuevo León, Tamaulipas | TT | Návar et al. 2004a |
| AGB [WI] | Shrub | *Echeveria gibbiflora* | [1.552]*[[3.1416]*[[[[$D_{0.0}$^2]/4]]^1.345]] | g | 12 | 0.8890 | | Distrito Federal | XS | Cano 1994 |
| AGB [WI] | Shrub | *Eupatorium petiolare* | [81.532]*[[3.1416]*[[[[$D_{0.10}$^2]/4]]^1.352]] | g | 10 | 0.9770 | | Distrito Federal | XS | Cano 1994 |

**Table 7** (continued)

| Stock [component] | Life form | Genus \| Species \| Species group vegetation | Equation | Unit of measure | Sample | r2 | SE | State of Mexico | Vegetation type associated | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| AGB [WI] | Shrub | *Eysenhardtia polystachya* | [[−0.00842]−[0.02042*TH]+[0.06316*[ln[$D_{0.0}$^2*TH]]+[[−0.912571]-[0.10608*TH]+[0.009052*[ln TH]+[0.009085*[$D_{0.0}$^2*TH]]+[[−0.089769]+[0.171654*TH]+[0.007258*[$D_{0.0}$^2*TH]]]]]]] | kg | 42 | 0.7400 | | Coahuila, Nuevo León, Tamaulipas | TT | Návar et al. 2004a |
| AGB [WI] | Shrub | *Forestiera angustifolia* | [[−0.062164]+[0.011566*[$D_{0.0}$^2*TH]]+[0.05652*[ln[$D_{0.0}$^2*TH]]]+[[−0.088]+[0.115089*[$D_{0.0}$^2*TH]]]+[[−0.08742]+[0.014452*[$D_{0.0}$^2*TH]]]] | kg | 18 | 0.9800 | | Coahuila, Nuevo León, Tamaulipas | TT | Návar et al. 2004a |
| AGB [WI] | Shrub | *Gochnatia hypoleuca* | [[−0.69334]+[0.335057*[ln[$D_{0.0}$^2*TH]]]+[[−2.18807]+[1.046488*ln[$D_{0.0}$^2*TH]]+[0.008012*[$D_{0.0}$^2*TH]]+[[−0.10528]+[1.061613*$D_{0.0}$]−[2.68152*[ln $D_{0.0}$]]]]] | kg | 29 | 0.9300 | | Coahuila, Nuevo León, Tamaulipas | TT | Návar et al. 2004a |
| AGB [WI] | Shrub | *Helietta parvifolia* | [[−0.17395]+[0.002432*[$D_{0.0}$^2*TH]]−[1.24942*TH]+[4.2865*[ln TH]]−[0.18844*[ln $D_{0.0}$]]]+[[−20.99959]+[0.056192*[$D_{0.0}$^2*TH]]−[4.382*TH]−[1.90569*$D_{0.0}$]]+[[−3.7336]+[0.025468*[$D_{0.0}$^2*TH]−[0.094648*$D_{0.0}$]]] | kg | 72 | 0.8200 | | Coahuila, Nuevo León, Tamaulipas | TT | Návar et al. 2004a |
| AGB [WI] | Shrub | *Iresine calea* | [63.307]*[[3.1416]*[[[[$D_{0.10}$^2]/4]]^1.186]] | g | 9 | 0.9350 | | Distrito Federal | XS | Cano 1994 |
| AGB [WI] | Shrub | *Lagascea rigida* | [54.163]*[[3.1416]*[[[[$D_{0.10}$^2]/4]]^1.160]] | g | 4 | 1.0000 | | Distrito Federal | XS | Cano 1994 |
| AGB [WI] | Shrub | *Loeselia mexicana* | [36.198]*[[3.1416]*[[[[$D_{0.10}$^2]/4]]^0.958]] | g | 10 | 0.8330 | | Distrito Federal | XS | Cano 1994 |
| AGB [WI] | Shrub | *Matelea cordifolia\| Encelia farinosa\| Bursera laxiflora\| Mammilaria grahamii\| Opuntia fulgida\| Opuntia leptocaulis\| Opuntia thurberi\| Opuntia versicolor\| Jatropha cardiophylla\| Caesalpinia palmeri\| Mimosa distachya\| Olneya tesota\| Janusia californica\| Janusia linearis\| Abutilon incanum\| Randia obcordata\| Cardiospermum corindum\|Nicotiana glauca\|Guaiacum coulteri* | [896.501]*[[[3.1416]*RC1*RC2*HC]^1.66] | g | 388 | 0.8810 | | Sonora | DS | Búrquez et al. 2010 |
| AGB [WI] | Shrub | *Montanoa tomentosa* | [109.508]*[[3.1416]*[[[[$D_{0.10}$^2]/4]]^1.472]] | g | 9 | 0.9310 | | Distrito Federal | XS | Cano 1994 |
| AGB [WI] | Shrub | *Opuntia excelsa* | [10^[−0.8092]*[BA*0.30*TH]^[0.8247]] | kg | 214 | 0.9500 | | Jalisco | TDF | Martínez-Yrizar et al. 1992 |
| AGB [WI] | Shrub | Other shrub species | [−0.05266]+[[0.000052]*TH]+[[0.092582]*[ln[$D_{0.0}$^2*TH]]]+[0.109003]+[[0.014021]*[ln[$D_{0.0}$^2*TH]]−[[1.62531]*TH]+[[0.89543]*[ln[$D_{0.0}$^2*TH]]]+[0.3558]+[[0.010336]*[$D_{0.0}$^2*TH]]]−[[0.51147]*$D_{0.0}$]+[[1.5063]*[ln[$D_{0.0}$]]] | kg | 86 | 0.6500 | | Coahuila, Nuevo León, Tamaulipas | TT | Návar et al. 2004a |
| AGB [WI] | Shrub | *Pithecellobium ebano* | [−0.9523]+[0.002317*[$D_{0.0}$^2*TH]]+[−1.28375]+[0.027484*[$D_{0.0}$^2*TH]]+[3.08371]+[0.025196*[$D_{0.0}$^2*TH]] | kg | 16 | 0.7900 | | Coahuila, Nuevo León, Tamaulipas | TT | Návar et al. 2004a |
| AGB [WI] | Shrub | *Pithecellobium pallens* | [−0.00523]+[0.000689*[$D_{0.0}$^2*TH]]+[0.8018*[ln $D_{0.0}$]]+[0.332213]+[0.017196*[$D_{0.0}$^2*TH]]− | kg | 123 | 0.7900 | | Coahuila, Nuevo León, Tamaulipas | TT | Návar et al. 2004a |

**Table 7** (continued)

| Stock [component] | Life form | Genus \| Species \| Species group vegetation | Equation | Unit of measure | Sample | r2 | SE | State of Mexico | Vegetation type associated | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | [0.94861*$D_{0.0}$]+[3.388551*[ln $D_{0.0}$]]+ [−0.58367]+[0.004255*[$D_{0.0}$^2*TH]]+ [0.393071*$D_{0.0}$] | | | | | | | |
| AGB [WI] | Shrub | *Prosopis glandulosa* | [0.6920]*[$D_{0.0}$^1.7922] | kg | 18 | 0.9228 | | Baja California | DS | Méndez et al. 2006 |
| AGB [WI] | Shrub | *Prosopis glandulosa* | [0.15545]+[0.110531*$D_{0.0}$]+[0.000797*[$D_{0.0}$^2*TH]]+ [4.2362]+[3.2482*$D_{0.0}$]−[11.6949*[ln $D_{0.0}$]]+ [−2.04254]+[0.387649*$D_{0.0}$]+[0.5166*TH] | kg | 38 | 0.9700 | | Coahuila, Nuevo León, Tamaulipas | TT | Návar et al. 2004a |
| AGB [WI] | Shrub | *Prosopis laevigata* | [0.346]*[$D_{0.0}$^1.679] | kg | 10 | 0.9700 | | Durango | DS | Méndez et al. 2012 |
| AGB [WI] | Shrub | *Prosopis laevigata* | [0.056]*[$D_{0.0}$^2.383] | kg | 30 | 0.9800 | | Durango | DS | Méndez et al. 2012 |
| AGB [WI] | Shrub | *Prosopis laevigata* | [0.108]*[$D_{0.0}$^2.2] | kg | 14 | 0.9100 | | Zacatecas | DS | Méndez et al. 2012 |
| AGB [WI] | Shrub | *Prosopis laevigata* | [0.127]*[$D_{0.0}$^2.161] | kg | 15 | 0.9500 | | Zacatecas | DS | Méndez et al. 2012 |
| AGB [WI] | Shrub | *Prosopis laevigata* | [0.041]*[$D_{0.0}$^2.513] | kg | 27 | 0.9400 | | Chihuahua | DS | Méndez et al. 2012 |
| AGB [WI] | Shrub | *Prosopis laevigata* | [0.018]*[$D_{0.0}$^2.767] | kg | 22 | 0.9700 | | Chihuahua | DS | Méndez et al. 2012 |
| AGB [WI] | Shrub | *Prosopis laevigata* | [0.751]*[$D_{0.0}$^1.458] | kg | 26 | 0.9500 | | Coahuila | DS | Méndez et al. 2012 |
| AGB [WI] | Shrub | *Prosopis laevigata* | [[0.14775]+[0.000659*[$D_{0.0}$^2*TH]]+[0.118172*$D_{0.0}$]]+ [[2.981]+[0.006699*[$D_{0.0}$^2*TH]]+ [1.221108*$D_{0.0}$]]+[[−0.62634]+ [0.001711*[$D_{0.0}$^2*TH]]+[0.313902*$D_{0.0}$]] | kg | 29 | 0.9200 | | Coahuila, Nuevo León, Tamaulipas | TT | Návar et al. 2004a |
| AGB [WI] | Shrub | *Senecio praecox* | [10.064]*[[3.1416]*[[[[$D_{0.10}$^2]/4]]^1.419]] | g | 10 | 0.9420 | | Distrito Federal | XS | Cano 1994 |
| AGB [WI] | Shrub | *Stevia salicifolia* | [83.013]*[[3.1416]*[[[[$D_{0.10}$^2]/4]]^1.406]] | g | 10 | 0.9890 | | Distrito Federal | XS | Cano 1994 |
| AGB [WI] | Shrub | *Verbesina virgata* | [70.176]*[[3.1416]*[[[[$D_{0.10}$^2]/4]]^1.347]] | g | 10 | 0.9600 | | Distrito Federal | XS | Cano 1994 |
| AGB [WI] | Shrub | *Zanthoxylum fagara* | [−0.58283]+[0.000668*[$D_{0.0}$^2*TH]]−[0.29147*[ln TH]]+[3.288]+[1.1233*$D_{0.0}$]+[0.84592*[ln TH]]+[1.08316]+ [0.005911*[$D_{0.0}$^2*TH]]−[0.11339*TH] | kg | 18 | 0.8000 | | Coahuila, Nuevo León, Tamaulipas | TT | Návar et al. 2004a |
| AGB [B] | Tree | *Abies religiosa* | [1.5842]*[Exp[0.044*DBH]] | kg | 10 | 0.6170 | | Estado de México | FF | Flores et al. 2011 |
| AGB [B] | Tree | *Avicennia germinans* | [Exp[−2.5845]*[DBH^1.8200]] | kg | 33 | 0.8400 | | Campeche | M | Day et al. 1987 |
| AGB [B] | Tree | *Hevea brasiliensis* | [−2.52112]+[[0.005151]*[[DBH^2]*[TH]]] | kg | 20 | 0.4600 | | Veracruz | CF | Monroy and Návar 2004 |
| AGB [B] | Tree | *Laguncularia racemosa* | [Exp[−2.9622]*[DBH^1.7299]] | kg | 34 | 0.6800 | | Campeche | M | Day et al. 1987 |
| AGB [B] | Tree | *Pinus durangensis* | [3.6406]*[DBH^0.7429] | g | 72 | 0.7429 | | Durango | PF | Montes de Oca et al. 2009 |
| AGB [B] | Tree | *Pinus greggii* | [0.401]+[[0.0066]*[[DBH^2]*TH]] | kg | 30 | 0.8592 | | Coahuila | PF | Aguilar 2009 |

**Table 7** (continued)

| Stock [component] | Life form | Genus \| Species \| Species group vegetation | Equation | Unit of measure | Sample | r2 | SE | State of Mexico | Vegetation type associated | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| AGB [B] | Tree | *Pinus greggii* | [−867.23]+[[57.34]*[DBH^2]] | g | 20 | 0.9526 | | Coahuila | CF | Mora 2010 |
| AGB [B] | Tree | *Pinus patula* | [0.0329]*[DBH^2.1683] | kg | 18 | 0.9300 | | Oaxaca | POF | Pacheco 2011 |
| AGB [B] | Tree | *Pinus patula* | [Exp[−4.45555]*[DBH^2.33251]] | kg | 27 | 0.9600 | | Puebla | PF | Castellanos et al. 1996 |
| AGB [B] | Tree | *Rhizophora mangle* | [Exp[−2.8633]*[DBH^2.3286]] | kg | 35 | 0.9000 | | Campeche | M | Day et al. 1987 |
| AGB [B] | Tree | *Zanthoxylum kellermanii* | [0.00062]*[DBH^3.2722] | kg | 22 | 0.9600 | | Oaxaca | ETF | Manzano 2010 |
| AGB [F] | Tree | *Abies religiosa* | [0.8413]*[Exp[0.0398*DBH]] | kg | 10 | 0.5880 | | Estado de México | FF | Flores et al. 2011 |
| AGB [F] | Tree | *Pinus durangensis* | [5.4961]*[DBH^2.4123] | g | 72 | 0.7445 | | Durango | PF | Montes de Oca et al. 2009 |
| AGB [F] | Tree | *Pinus greggii* | [0.6391]+[[0.0014]*[[DBH^2]*TH]] | kg | 30 | 0.6039 | | Coahuila | PF | Aguilar 2009 |
| AGB [F] | Tree | *Pinus greggii* | [10954]+[[−2557.15]*DBH]+[[169.04]*[DBH^2]] | g | 20 | 0.9030 | | Coahuila | CF | Mora 2010 |
| AGB [F] | Tree | *Pinus patula* | [0.1483]*[DBH^1.3707] | kg | 18 | 0.8800 | | Oaxaca | POF | Pacheco 2011 |
| AGB [F] | Tree | *Pinus patula* | [Exp[−3.19559]*[DBH^2.02051]] | kg | 27 | 0.9200 | | Puebla | PF | Castellanos et al. 1996 |
| AGB [F] | Tree | *Pinus patula* | [29.440]*[Exp[[−26.519]/DBH]] | kg | 18 | 0.9010 | | Hidalgo | POF | Figueroa et al. 2010 |
| AGB [F] | Tree | *Zanthoxylum kellermanii* | [0.00942]*[DBH^1.8329] | kg | 22 | 0.9800 | | Oaxaca | ETF | Manzano 2010 |
| AGB [LB] | Tree | *Acacia cochliacantha* | [0.0053]*[DBH^2.96] | kg | 10 | 0.6600 | | Sinaloa | TDF | Návar 2009b |
| AGB [LB] | Tree | *Bursera penicillata* | [0.0053]*[DBH^2.96] | kg | 5 | 0.6600 | | Sinaloa | TDF | Návar 2009b |
| AGB [LB] | Tree | *Bursera penicillata* | [0.0433]*[DBH^2.3929] | kg | 39 | 0.8100 | | Sinaloa | TDF | Návar 2009c |
| AGB [LB] | Tree | *Bursera penicillata\| Ceiba acuminata\| Haematoxylon brasiletto\| Ipomoea arborescens\| Pithecellobium mangense\| Erythrina guatemalensis\| Guazuma ulmifolia\| Lysiloma divaricata\| Rubus palmeri\|* | [0.0433]*[DBH^2.3929] | kg | 39 | 0.8100 | | Sinaloa | TDF | Návar 2009c |
| AGB [LB] | Tree | *Ceiba acuminata* | [0.0433]*[DBH^2.3929] | kg | 39 | 0.8100 | | Sinaloa | TDF | Návar 2009c |
| AGB [LB] | Tree | *Ceiba acuminata* | [0.0053]*[DBH^2.96] | kg | 5 | 0.6600 | | Sinaloa | TDF | Návar 2009b |
| AGB [LB] | Tree | *Cochlospermum vitifolium* | [0.0053]*[DBH^2.96] | kg | 5 | 0.6600 | | Sinaloa | TDF | Návar 2009b |
| AGB [LB] | Tree | *Erythrina guatemalensis* | [0.0433]*[DBH^2.3929] | kg | 39 | 0.8100 | | Sinaloa | TDF | Návar 2009c |
| AGB [LB] | Tree | *Guazuma ulmifolia* | [0.0433]*[DBH^2.3929] | kg | 39 | 0.8100 | | Sinaloa | TDF | Návar 2009c |
| AGB [LB] | Tree | *Haematoxylon brasiletto* | [0.0433]*[DBH^2.3929] | kg | 39 | 0.8100 | | Sinaloa | TDF | Návar 2009c |
| AGB [LB] | Tree | *Ipomoea arborescens* | [0.0433]*[DBH^2.3929] | kg | 39 | 0.8100 | | Sinaloa | TDF | Návar 2009c |
| AGB [LB] | Tree | *Jatropha angustifolia* | [0.0053]*[DBH^2.96] | kg | 5 | 0.6600 | | Sinaloa | TDF | Návar 2009b |
| AGB [LB] | Tree | *Lysiloma divaricatum* | [0.0433]*[DBH^2.3929] | kg | 39 | 0.8100 | | Sinaloa | TDF | Návar 2009c |
| AGB [LB] | Tree | *Lysiloma divaricatum* | [0.0053]*[DBH^2.96] | kg | 10 | 0.6600 | | Sinaloa | TDF | Návar 2009b |
| AGB [LB] | Tree | *Pinus* | [0.0565]*[DBH^2.2729] | kg | 81 | 0.6900 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [LB] | Tree | *Pinus arizonica* | [0.0063]*[DBH^2.8284] | kg | 66 | 0.8700 | | Chihuahua, Durango | PF | Návar 2009c |

**Table 7** (continued)

| Stock [component] | Life form | Genus \| Species \| Species group vegetation | Equation | Unit of measure | Sample | r2 | SE | State of Mexico | Vegetation type associated | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| AGB [LB] | Tree | *Pinus ayacahuite* | [0.6437]*[DBH^1.6020] | kg | 58 | 0.9200 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [LB] | Tree | *Pinus cembroides* | [Exp[0.5474]*[DBH^0.9738]] | kg | 30 | 0.3716 | | Zacatecas | DS | Guerrero 2013 |
| AGB [LB] | Tree | *Pinus cooperi* | [0.0254]*[DBH^2.4828] | kg | 49 | 0.6800 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [LB] | Tree | *Pinus devoniana* | [0.044]*[DBH^2.117] | kg | 20 | 0.5700 | | Guanajuato | CF | Méndez et al. 2011 |
| AGB [LB] | Tree | *Pinus durangensis* | [0.0175]*[DBH^2.5739] | kg | 384 | 0.6700 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [LB] | Tree | *Pinus engelmannii* | [0.2883]*[DBH^1.7343] | kg | 81 | 0.7200 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [LB] | Tree | *Pinus herrerae* | [0.2883]*[DBH^1.7343] | kg | 81 | 0.7200 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [LB] | Tree | *Pinus leiophylla* | [0.0255]*[DBH^2.5507] | kg | 27 | 0.9100 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [LB] | Tree | *Pinus oocarpa* | [0.2883]*[DBH^1.7343] | kg | 81 | 0.7200 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [LB] | Tree | *Pinus oocarpa\| Pinus engelmannii\| Pseudotsuga menziesii\| Pinus herrerae* | [0.2883]*[DBH^1.7343] | kg | 81 | 0.7200 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [LB] | Tree | *Pinus pseudostrobus* | [0.001]*[DBH^3.954] | kg | 20 | 0.8400 | | Guanajuato | CF | Méndez et al. 2011 |
| AGB [LB] | Tree | *Pinus teocote* | [0.4452]*[DBH^1.7682] | kg | 56 | 0.8900 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [LB] | Tree | *Pithecellobium mangense* | [0.0433]*[DBH^2.3929] | kg | 39 | 0.8100 | | Sinaloa | TDF | Návar 2009c |
| AGB [LB] | Tree | *Pseudotsuga menziesii* | [0.2883]*[DBH^1.7343] | kg | 21 | 0.7200 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [LB] | Tree | *Quercus* | [0.0202]*[DBH^2.6480] | kg | 118 | 0.8600 | | Chihuahua, Durango | OPF | Návar 2009c |
| AGB [LB] | Tree | *Quercus sideroxyla* | [0.0202]*[DBH^2.6480] | kg | 51 | 0.8600 | | Chihuahua, Durango | OPF | Návar 2009c |
| AGB [LB] | Tree | *Quercus gambelii* | [0.0202]*[DBH^2.6480] | kg | 118 | 0.8600 | | Chihuahua, Durango | OPF | Návar 2009c |
| AGB [LB] | Tree | *Quercus rugosa* | [0.0202]*[DBH^2.6480] | kg | 118 | 0.8600 | | Chihuahua, Durango | OPF | Návar 2009c |
| AGB [LB] | Tree | *Rubus palmeri* | [0.0433]*[DBH^2.3929] | kg | 39 | 0.8100 | | Sinaloa | TDF | Návar 2009c |
| AGB [S] | Tree | *Abies religiosa* | [0.0173]*[DBH^2.7459] | kg | 10 | 0.9280 | | Estado de México | FF | Flores et al. 2011 |
| AGB [S] | Tree | *Acacia cochliacantha* | [0.083]*[DBH^2.23] | kg | 10 | 0.7700 | | Sinaloa | TDF | Návar 2009b |
| AGB [S] | Tree | *Avicennia germinans* | [Exp[−2.0199]*[DBH^2.4399]] | kg | 33 | 0.9700 | | Campeche | M | Day et al. 1987 |
| AGB [S] | Tree | *Bursera penicillata* | [0.083]*[DBH^2.23] | kg | 5 | 0.7700 | | Sinaloa | TDF | Návar 2009b |
| AGB [S] | Tree | *Bursera penicillata* | [0.5825]*[DBH^1.6178] | kg | 39 | 0.8500 | | Sinaloa | TDF | Návar 2009c |
| AGB [S] | Tree | *Bursera penicillata\| Ceiba acuminata\| Haematoxylon brasiletto\| Ipomoea arborescens\| Pithecellobium mangense\| Erythrina guatemalensis\| Guazuma ulmifolia\| Lysiloma divaricata\| Rubus palmeri\|* | [0.5825]*[DBH^1.6178] | kg | 39 | 0.8500 | | Sinaloa | TDF | Návar 2009c |
| AGB [S] | Tree | *Ceiba acuminata* | [0.5825]*[DBH^1.6178] | kg | 39 | 0.8500 | | Sinaloa | TDF | Návar 2009c |
| AGB [S] | Tree | *Ceiba acuminata* | [0.083]*[DBH^2.23] | kg | 5 | 0.7700 | | Sinaloa | TDF | Návar 2009b |
| AGB [S] | Tree | *Cochlospermum vitifolium* | [0.083]*[DBH^2.23] | kg | 5 | 0.7700 | | Sinaloa | TDF | Návar 2009b |
| AGB [S] | Tree | *Erythrina guatemalensis* | [0.5825]*[DBH^1.6178] | kg | 39 | 0.8500 | | Sinaloa | TDF | Návar 2009c |

**Table 7** (continued)

| Stock [component] | Life form | Genus \| Species \| Species group vegetation | Equation | Unit of measure | Sample | r2 | SE | State of Mexico | Vegetation type associated | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| AGB [S] | Tree | *Guazuma ulmifolia* | [0.5825]*[DBH^1.6178] | kg | 39 | 0.8500 | | Sinaloa | TDF | Návar 2009c |
| AGB [S] | Tree | *Haematoxylon brasiletto* | [0.5825]*[DBH^1.6178] | kg | 39 | 0.8500 | | Sinaloa | TDF | Návar 2009c |
| AGB [S] | Tree | *Hevea brasiliensis* | [16.02547]+[[0.013939]*[[DBH^2]*[TH]]] | kg | 20 | 0.8500 | | Veracruz | CF | Monroy and Návar 2004 |
| AGB [S] | Tree | *Ipomoea arborescens* | [0.5825]*[DBH^1.6178] | kg | 39 | 0.8500 | | Sinaloa | TDF | Návar 2009c |
| AGB [S] | Tree | *Jatropha angustifolia* | [0.083]*[DBH^2.23] | kg | 5 | 0.7700 | | Sinaloa | TDF | Návar 2009b |
| AGB [S] | Tree | *Laguncularia racemosa* | [Exp[−2.0794]*[DBH^2.3861]] | kg | 34 | 0.9900 | | Campeche | M | Day et al. 1987 |
| AGB [S] | Tree | *Lysiloma divaricatum* | [0.5825]*[DBH^1.6178] | kg | 39 | 0.8500 | | Sinaloa | TDF | Návar 2009c |
| AGB [S] | Tree | *Lysiloma divaricatum* | [0.083]*[DBH^2.23] | kg | 10 | 0.7700 | | Sinaloa | TDF | Návar 2009b |
| AGB [S] | Tree | *Pinus* | [0.0726]*[DBH^2.4459] | kg | 81 | 0.8900 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [S] | Tree | *Pinus arizonica* | [0.0992]*[DBH^2.2674] | kg | 66 | 0.9600 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [S] | Tree | *Pinus ayacahuite* | [0.0690]*[DBH^2.4515] | kg | 58 | 0.9700 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [S] | Tree | *Pinus cembroides* | [Exp[−0.3712]*[DBH^1.2663]] | kg | 30 | 0.5394 | | Zacatecas | DS | Guerrero 2013 |
| AGB [S] | Tree | *Pinus cooperi* | [0.1899]*[DBH^2.2270] | kg | 49 | 0.9600 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [S] | Tree | *Pinus devoniana* | [0.156]*[DBH^1.808] | kg | 20 | 0.8500 | | Guanajuato | CF | Méndez et al. 2011 |
| AGB [S] | Tree | *Pinus durangensis* | [3.8048]*[DBH^2.9340] | g | 72 | 0.7388 | | Durango | PF | Montes de Oca et al. 2009 |
| AGB [S] | Tree | *Pinus durangensis* | [0.1314]*[DBH^2.2815] | kg | 384 | 0.8700 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [S] | Tree | *Pinus engelmannii* | [0.0348]*[DBH^2.5893] | kg | 81 | 0.9200 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [S] | Tree | *Pinus greggii* | [−0.177]+[[0.0157]*[[DBH^2]*TH]] | kg | 30 | 0.9662 | | Coahuila | PF | Aguilar 2009 |
| AGB [S] | Tree | *Pinus greggii* | [−976.02]+[[264.78]*DBH]+ [[0.16]*[[DBH^2]*TH]] | g | 20 | 0.9802 | | Coahuila | CF | Mora 2010 |
| AGB [S] | Tree | *Pinus herrerae* | [0.0348]*[DBH^2.5893] | kg | 81 | 0.9200 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [S] | Tree | *Pinus leiophylla* | [0.1855]*[DBH^2.1017] | kg | 27 | 0.9200 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [S] | Tree | *Pinus oocarpa* | [0.0348]*[DBH^2.5893] | kg | 81 | 0.9200 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [S] | Tree | *Pinus oocarpa\|Pinus engelmannii\|Pseudotsuga menziesii\|Pinus herrerae* | [0.0348]*[DBH^2.5893] | kg | 81 | 0.9200 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [S] | Tree | *Pinus patula* | [0.0262]*[DBH^2.6419] | kg | 18 | 0.9600 | | Oaxaca | POF | Pacheco 2011 |
| AGB [S] | Tree | *Pinus patula* | [Exp[−2.06082]*[DBH^2.30026]] | kg | 27 | 0.9900 | | Puebla | PF | Castellanos et al. 1996 |
| AGB [S] | Tree | *Pinus pseudostrobus* | [0.007]*[DBH^2.975] | kg | 20 | 0.9200 | | Guanajuato | CF | Méndez et al. 2011 |
| AGB [S] | Tree | *Pinus teocote* | [0.0274]*[DBH^2.6928] | kg | 56 | 0.9700 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [S] | Tree | *Pithecellobium mangense* | [0.5825]*[DBH^1.6178] | kg | 39 | 0.8500 | | Sinaloa | TDF | Návar 2009c |
| AGB [S] | Tree | *Pseudotsuga menziesii* | [0.0348]*[DBH^2.5893] | kg | 21 | 0.9200 | | Chihuahua, Durango | PF | Návar 2009c |

**Table 7** (continued)

| Stock [component] | Life form | Genus \| Species \| Species group vegetation | Equation | Unit of measure | Sample | r2 | SE | State of Mexico | Vegetation type associated | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| AGB [S] | Tree | *Quercus* | [0.0768]*[DBH^2.4416] | kg | 118 | 0.9500 | | Chihuahua, Durango | OPF | Návar 2009c |
| AGB [S] | Tree | *Quercus sideroxyla* | [0.0768]*[DBH^2.4416] | kg | 51 | 0.9500 | | Chihuahua, Durango | OPF | Návar 2009c |
| AGB [S] | Tree | *Quercus gambelii* | [0.0768]*[DBH^2.4416] | kg | 118 | 0.9500 | | Chihuahua, Durango | OPF | Návar 2009c |
| AGB [S] | Tree | *Quercus rugosa* | [0.0768]*[DBH^2.4416] | kg | 118 | 0.9500 | | Chihuahua, Durango | OPF | Návar 2009c |
| AGB [S] | Tree | *Rhizophora mangle* | [Exp[−1.9122]*[DBH^2.4120]] | kg | 35 | 0.9300 | | Campeche | M | Day et al. 1987 |
| AGB [S] | Tree | *Rubus palmeri* | [0.5825]*[DBH^1.6178] | kg | 39 | 0.8500 | | Sinaloa | TDF | Návar 2009c |
| AGB [S] | Tree | *Zanthoxylum kellermanii* | [0.00108]*[DBH^3.7448] | kg | 22 | 0.9800 | | Oaxaca | ETF | Manzano 2010 |
| AGB [SR] | Tree | *Rhizophora mangle* | [Exp[−4.4565]*[DBH^3.1828]] | kg | 35 | 0.8300 | | Campeche | M | Day et al. 1987 |
| AGB [WI] | Tree | *Nectandra ambigens\| Omphalea diandra\| Myriocarpa longipes\| Croton schiedeanus\| Lonchocarpus unifoliolatus\| Heliocarpus appendiculatus\| Miconia argentea\| Poulsenia armata* | [[Exp[4.9375]]*[[DBH^2]^1.0583]]*[1.14]/1000000 | Mg | 66 | 0.9300 | | Veracruz | ETF | Hughes et al. 1999 |
| AGB [WI] | Tree | *Abies religiosa* | [0.0754]*[DBH^2.513] | kg | 26 | 0.9930 | | Tlaxcala | FF | Avendaño et al. 2009 |
| AGB [WI] | Tree | *Abies religiosa* | [0.031661]*[DBH^2.62221] | kg | 250 | 1.0000 | | Hidalgo | FF | Rodríguez 2013 |
| AGB [WI] | Tree | *Acacia berlandieri* | [1976.2]*[Vol^1.0101] | kg | 15 | 0.8500 | 0.1865 | Nuevo León | TT | Návar et al. 2001 |
| AGB [WI] | Tree | *Acacia cochliacantha* | [Exp[−1.291]*[DBH^2.178]] | kg | 8 | 0.8900 | | Morelos | TDF | Gómez 2008 |
| AGB [WI] | Tree | *Acacia cochliacantha* | [0.0841]*[DBH^2.41] | kg | 10 | 0.7900 | | Sinaloa | TDF | Návar 2009b |
| AGB [WI] | Tree | *Acacia cochliacantha\| Conzattia multiflora\| Euphorbia schlechtendalii\| Ipomoea arborescens\| Lysiloma divaricatum\| Quercus magnoliifolia* | [Exp[−1.527]*[DBH^2.056]] | kg | 72 | 0.7110 | | Morelos | TDF | Gómez 2008 |
| AGB [WI] | Tree | *Acacia farnesiana* | [3008.3]*[Vol^1.0646] | kg | 15 | 0.9500 | 0.0056 | Nuevo León | TT | Návar et al. 2001 |
| AGB [WI] | Tree | *Acacia rigidula* | [1362.2]*[Vol^0.9347] | kg | 15 | 0.9300 | 0.0559 | Nuevo León | TT | Návar et al. 2001 |
| AGB [WI] | Tree | *Albizia caribaea* | [0.054]*[SUM[$D_{0.10}$^2]]*[0.121] | kg | 5 | 0.7000 | 43.5 | Nuevo León | TT | Foroughbakhch et al. 2006 |
| AGB [WI] | Tree | *Albizia guachapele* | [0.143]*[SUM[$D_{0.30}$^2]]*[2.0315*TH] | kg | 5 | 0.7900 | 34.8 | Nuevo León | TT | Foroughbakhch et al. 2006 |
| AGB [WI] | Tree | *Alnus* | [Exp[−2.14]*[DBH^2.23]] | kg | 10 | 0.9700 | | Oaxaca | TMCF | Acosta et al. 2002 |
| AGB [WI] | Tree | *Alnus arguta* | [0.1649]*[DBH^2.2755] | kg | 22 | 0.9677 | | Hidalgo | TMCF | Acosta et al. 2011 |
| AGB [WI] | Tree | *Alnus firmifolia* | [0.0143]*[DBH^2.8355] | kg | 16 | 0.8795 | | Estado de México | POF | Juárez 2008 |
| AGB [WI] | Tree | *Alnus glabrata* | [Exp[−2.14]*[DBH^2.23]] | kg | 10 | 0.9700 | | Oaxaca | TMCF | Acosta et al. 2002 |
| AGB [WI] | Tree | *Alnus sp.\| Clethra sp.\| Inga sp.\| Liquidambar sp.\| Quercus sp.\| Rapanea sp.* | [Exp[−2.194]*[DBH^2.364]] | kg | 52 | 0.9720 | | Oaxaca | TMCF | Acosta et al. 2002 |
| AGB [WI] | Tree | *Alnus sp.\| Clethra sp.\| Rapanea sp.* | [Exp[−1.969]*[DBH^2.189]] | kg | 22 | 0.9750 | | Oaxaca | TMCF | Acosta et al. 2002 |
| AGB [WI] | Tree | *Alseis yucatanensis* | [0.0301]*[DBH^2]*TH | kg | 20 | 0.9100 | | Quintana Roo | SETF | Cairns et al. 2003 |

**Table 7** (continued)

| Stock [component] | Life form | Genus \| Species \| Species group vegetation | Equation | Unit of measure | Sample | r2 | SE | State of Mexico | Vegetation type associated | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| AGB [WI] | Tree | *Alseis yucatanensis* | [0.0867]+[[0.0429]*[DBH^2]*TH] | kg | 9 | 0.9900 | | Quintana Roo | SETF | Cairns et al. 2003 |
| AGB [WI] | Tree | *Avicennia germinans* | [Exp[−1.5852]*[DBH^2.3023]] | kg | 33 | 0.9700 | | Campeche | M | Day et al. 1987 |
| AGB [WI] | Tree | *Bauhinia divaricata* | [0.197575]*[DBH^2.34002] | kg | 33 | 0.9300 | | Tamaulipas | TDF | Rodríguez et al. 2008 |
| AGB [WI] | Tree | *Brosimum alicastrum* | [0.0336]*[DBH^2]*[TH] | kg | 17 | 0.9700 | | Quintana Roo | SETF | Cairns et al. 2003 |
| AGB [WI] | Tree | *Brosimum alicastrum* | [0.479403]*[DBH^2.0884] | kg | 56 | 0.9200 | | Tamaulipas | TDF | Rodríguez et al. 2008 |
| AGB [WI] | Tree | *Bucida burseras* | Exp[−1.65869]*[[[DBH^2]*[3.1416/4]*[TH]*[WD]]^0.89971] | kg | 15 | 0.9300 | | Quintana Roo | SETF | Guyot 2011 |
| AGB [WI] | Tree | *Buddleja cordata* | [260.343]*[[3.1416]*[[[[DBH^2]/4]]^1.036]] | g | 8 | 0.9840 | | Distrito Federal | XS | Cano 1994 |
| AGB [WI] | Tree | *Buddleja cordata\| Buddleja parviflora\| Dodonaea viscosa\| Eysenhardtia polystachya\| Fraxinus uhdei\| Wigandia urens* | [258.487]*[[3.1416]*[[[[DBH^2]/4]]^0.968]] | g | 47 | 0.8390 | | Distrito Federal | XS | Cano 1994 |
| AGB [WI] | Tree | *Buddleja parviflora* | [643.550]*[[3.1416]*[[[[DBH^2]/4]]^0.786]] | g | 8 | 0.9210 | | Distrito Federal | XS | Cano 1994 |
| AGB [WI] | Tree | *Bursera excelsa* | [10^[−0.8092]*[BA*0.35*TH]^[0.8247]] | kg | 214 | 0.9500 | | Jalisco | TDF | Martínez-Yrizar et al. 1992 |
| AGB [WI] | Tree | *Bursera penicillata* | [0.0841]*[DBH^2.41] | kg | 5 | 0.7900 | | Sinaloa | TDF | Návar 2009b |
| AGB [WI] | Tree | *Bursera penicillata* | [0.3700]*[DBH^1.9600] | kg | 39 | 0.8500 | | Sinaloa | TDF | Návar 2009c |
| AGB [WI] | Tree | *Bursera penicillata\| Ceiba acuminata\| Haematoxylon brasiletto\| Ipomoea arborescens\| Pithecellobium mangense\| Erythrina guatemalensis\| Guazuma ulmifolia\| Lysiloma divaricata\| Rubus palmeri\|* | [0.3700]*[DBH^1.9600] | kg | 39 | 0.8500 | | Sinaloa | TDF | Návar 2009c |
| AGB [WI] | Tree | *Bursera penicillata\| Ceiba acuminata\| Haematoxylon brasiletto\| Ipomoea arborescens\| Pithecellobium mangense\| Erythrina guatemalensis\| Guazuma ulmifolia\| Lysiloma divaricata\| Rubus palmeri\|* | [Exp[−2.523]*[DBH^2.437]] | kg | 40 | 0.8000 | | Sinaloa | TDF | Návar, 2010aa |
| AGB [WI] | Tree | *Bursera simaruba* | [[Exp[4.9375]]*[[DBH^2]^1.0583]]*[1.14]/1000000 | Mg | 66 | 0.9300 | | Veracruz | ETF | Hughes et al. 1999 |
| AGB [WI] | Tree | *Bursera simaruba* | [0.064808]*[DBH^2.46998] | kg | 43 | 0.9500 | | Tamaulipas | TDF | Rodríguez et al. 2008 |
| AGB [WI] | Tree | *Bursera simaruba* | Exp[−2.148]*[[[DBH]*[TH]*[WD]]^1.364] | kg | 15 | 0.9230 | | Quintana Roo | SETF | Guyot 2011 |
| AGB [WI] | Tree | *Caesalpinia* | [10^[−0.8092]*[BA*0.93*TH]^[0.8247]] | kg | 214 | 0.9500 | | Jalisco | TDF | Martínez-Yrizar et al. 1992 |
| AGB [WI] | Tree | *Caesalpinia coriaria* | [10^[−0.8092]*[BA*1.14*TH]^[0.8247]] | kg | 214 | 0.9500 | | Jalisco | TDF | Martínez-Yrizar et al. 1992 |
| AGB [WI] | Tree | *Caesalpinia eriostachys* | [0.085]*[SUM[$D_{0.30}$^2]]*[TH] | kg | 5 | 0.8100 | 36.9 | Nuevo León | TT | Foroughbakhch et al. 2006 |

**Table 7** (continued)

| Stock [component] | Life form | Genus \| Species \| Species group vegetation | Equation | Unit of measure | Sample | r2 | SE | State of Mexico | Vegetation type associated | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| AGB [WI] | Tree | *Caesalpinia eriostachys* | [10^[−0.8092]*[BA*0.74*TH]^[0.8247]] | kg | 214 | 0.9500 | | Jalisco | TDF | Martínez-Yrizar et al. 1992 |
| AGB [WI] | Tree | *Caesalpinia sclerocarpa* | [10^[−0.8092]*[BA*1.39*TH]^[0.8247]] | kg | 214 | 0.9500 | | Jalisco | TDF | Martínez-Yrizar et al. 1992 |
| AGB [WI] | Tree | *Caesalpinia velutina* | [0.136]*[SUM[$D_{0.10}$^2]]*[0.015] | kg | 5 | 0.7200 | 38.1 | Nuevo León | TT | Foroughbakhch et al. 2006 |
| AGB [WI] | Tree | *Carpinus caroliniana* | [0.109343]*[DBH^2.35954] | kg | 75 | 0.9900 | | Tamaulipas | TMCF | Rodríguez et al., 2006 |
| AGB [WI] | Tree | *Carya ovata* | [0.061554]*[DBH^2.53157] | kg | 20 | 0.9800 | | Tamaulipas | TMCF | Rodríguez et al., 2006 |
| AGB [WI] | Tree | *Ceanothus caeruleus* | [0.311733]*[DBH^2.04754] | kg | 15 | 0.9700 | | Tamaulipas | TDF | Rodríguez et al. 2008 |
| AGB [WI] | Tree | *Ceiba acuminata* | [0.3700]*[DBH^1.9600] | kg | 39 | 0.8500 | | Sinaloa | TDF | Návar 2009c |
| AGB [WI] | Tree | *Ceiba acuminata* | [0.0841]*[DBH^2.41] | kg | 5 | 0.7900 | | Sinaloa | TDF | Návar 2009b |
| AGB [WI] | Tree | *Celtis pallida* | [1065.5]*[Vol^0.8949] | kg | 15 | 0.8900 | 0.1147 | Nuevo León | TT | Návar et al. 2001 |
| AGB [WI] | Tree | *Cestrum dumetorum* | [0.311733]*[DBH^2.04754] | kg | 17 | 0.9800 | | Tamaulipas | TDF | Rodríguez et al. 2008 |
| AGB [WI] | Tree | *Clethra* | [Exp[−1.90]*[DBH^2.15]] | kg | 15 | 0.9468 | | Oaxaca | TMCF | Acosta et al. 2002 |
| AGB [WI] | Tree | *Clethra hartwegü* | [Exp[−1.90]*[DBH^2.15]] | kg | 15 | 0.9468 | | Oaxaca | TMCF | Acosta et al. 2002 |
| AGB [WI] | Tree | *Clethra mexicana* | [0.4632]*[DBH^1.8168] | kg | 15 | 0.9460 | | Hidalgo | TMCF | Acosta et al. 2011 |
| AGB [WI] | Tree | *Clethra pringlei* | [1.16935]*[DBH^1.698] | kg | 8 | 0.9900 | | Tamaulipas | POF | Rodríguez et al. 2009 |
| AGB [WI] | Tree | *Clethra pringlei* | [0.067833]*[DBH^2.50972] | kg | 12 | 0.9700 | | Tamaulipas | TMCF | Rodríguez et al., 2006 |
| AGB [WI] | Tree | *Cochlospermum vitifolium* | [0.0841]*[DBH^2.41] | kg | 5 | 0.7900 | | Sinaloa | TDF | Návar 2009b |
| AGB [WI] | Tree | *Coffea arabica* | [Exp[−0.66]*[DBH^1.37]] | kg | 10 | 0.5500 | | Oaxaca | TMCF | Acosta 2003 |
| AGB [WI] | Tree | *Condalia hookeri* | [1056.8]*[Vol^0.8882] | kg | 15 | 0.8500 | 0.1921 | Nuevo León | TT | Návar et al. 2001 |
| AGB [WI] | Tree | *Conzattia multiflora* | [Exp[−3.739]*[DBH^2.819]] | kg | 8 | 0.9900 | | Morelos | TDF | Gómez 2008 |
| AGB [WI] | Tree | *Conzattia multiflora\|Euphorbia schlechtendalii\|Ipomoea arborescens* | [Exp[−3.515]*[DBH^2.562]] | kg | 26 | 0.9080 | | Morelos | TDF | Gómez 2008 |
| AGB [WI] | Tree | *Cordia boissieri* | [979.39]*[Vol^0.9171] | kg | 15 | 0.9500 | 0.0277 | Nuevo León | TT | Návar et al. 2001 |
| AGB [WI] | Tree | *Cordia elaeagnoides* | [10^[−0.8092]*[BA*0.88*TH]^[0.8247]] | kg | 214 | 0.9500 | | Jalisco | TDF | Martínez-Yrizar et al. 1992 |
| AGB [WI] | Tree | *Crescentia alata* | [0.0327]*[SUM[$D_{0.30}$^2]*TH] | kg | 5 | 0.9400 | 23.6 | Nuevo León | TT | Foroughbakhch et al. 2006 |
| AGB [WI] | Tree | *Croton arboreus* | [0.2385]+[[0.0580]*[DBH^2]*TH] | kg | 20 | 0.9900 | | Quintana Roo | SETF | Cairns et al. 2003 |
| AGB [WI] | Tree | *Croton lundellii* | [0.1780]+[[0.0638]*[DBH^2]*TH] | kg | 10 | 0.9200 | | Quintana Roo | SETF | Cairns et al. 2003 |

**Table 7** (continued)

| Stock [component] | Life form | Genus \| Species \| Species group vegetation | Equation | Unit of measure | Sample | r2 | SE | State of Mexico | Vegetation type associated | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| AGB [WI] | Tree | *Croton schiedeanus* | [[Exp[4.9375]]*[[DBH^2]^1.0583]]*[1.14]/1000000 | Mg | 66 | 0.9300 | | Veracruz | ETF | Hughes et al. 1999 |
| AGB [WI] | Tree | *Cupressus lindleyi* | [0.5266]*[DBH^1.7712] | kg | 18 | 0.9305 | | Estado de México | PF | Vigil 2010 |
| AGB [WI] | Tree | *Dendropanax arboreus* | [0.037241*DBH^2.99585] | kg | 10 | 0.9500 | | Tamaulipas | TDF | Rodríguez et al. 2008 |
| AGB [WI] | Tree | *Diospyros texana* | [1649.5]*[Vol^0.9710] | kg | 15 | 0.9400 | | Nuevo León | TT | Návar et al. 2001 |
| AGB [WI] | Tree | *Dodonaea viscosa* | [450.789]*[[3.1416]*[[[[DBH^2]/4]]^0.941]] | g | 8 | 0.9180 | | Distrito Federal | XS | Cano 1994 |
| AGB [WI] | Tree | *Enterolobium cyclocarpum* | [0.0207]*[SUM[$D_{0.30}$^2]]*TH | kg | 5 | 0.9600 | 20.3 | Nuevo León | TT | Foroughbakhch et al. 2006 |
| AGB [WI] | Tree | *Erythrina guatemalensis* | [0.3700]*[DBH^1.9600] | kg | 39 | 0.8500 | | Sinaloa | TDF | Návar 2009c |
| AGB [WI] | Tree | *Esenbeckia berlandieri* | [10^[−0.8092]*[BA*0.93*TH]^[0.8247]] | kg | 214 | 0.9500 | | Jalisco | TDF | Martínez-Yrizar et al. 1992 |
| AGB [WI] | Tree | Wet species communities | [WD]*[Exp[[−1.239]+[1.98*ln[DBH]]+[[0.207*ln[DBH]^2]+[−0.0281*ln[DBH]^3]]] | kg | 415 | 0.9500 | | Yucatán | | Chave et al. 2005 |
| AGB [WI] | Tree | *Eugenia* | [0.4600]+[[0.0370]*[DBH^2]*TH] | kg | 7 | 0.9900 | | Quintana Roo | SETF | Cairns et al. 2003 |
| AGB [WI] | Tree | *Euphorbia schlechtendalii* | [Exp[−3.101]*[DBH^2.333]] | kg | 8 | 0.8800 | | Morelos | TDF | Gómez 2008 |
| AGB [WI] | Tree | *Eysenhardtia polystachya* | [362.129]*[[3.1416]*[[[[DBH^2]/4]]^0.796]] | g | 11 | 0.8820 | | Distrito Federal | XS | Cano 1994 |
| AGB [WI] | Tree | *Eysenhardtia texana* | [703.71]*[Vol^0.8605] | kg | 15 | 0.8800 | 0.0339 | Nuevo León | TT | Návar et al. 2001 |
| AGB [WI] | Tree | *Ficus* | [[Exp[4.9375]]*[[DBH^2]^1.0583]]*[1.14]/1000000] | Mg | 66 | 0.9300 | | Veracruz | ETF | Hughes et al. 1999 |
| AGB [WI] | Tree | *Ficus* | [0.027059]*[DBH^2.86357] | kg | 143 | 0.9500 | | Tamaulipas | TMCF | Rodríguez et al., 2006 |
| AGB [WI] | Tree | *Fraxinus uhdei* | [362.129]*[[3.1416]*[[[[DBH^2]/4]]^1.100]] | g | 4 | 0.9660 | | Distrito Federal | XS | Cano 1994 |
| AGB [WI] | Tree | *Gliricidia sepium* | [0.1185]*[SUM[$D_{0.30}$^2]] | kg | 5 | 0.9900 | 16.7 | Nuevo León | TT | Foroughbakhch et al. 2006 |
| AGB [WI] | Tree | *Guazuma ulmifolia* | [Exp[−1.6200]*[DBH^2.1200]] | kg | 25 | 0.9700 | | Chiapas | ETF | Douterlungne et al. 2013 |
| AGB [WI] | Tree | *Guazuma ulmifolia* | [0.3700]*[DBH^1.9600] | kg | 39 | 0.8500 | | Sinaloa | TDF | Návar 2009c |
| AGB [WI] | Tree | *Guazuma ulmifolia* | [0.232435]*[DBH^2.21906] | kg | 105 | 0.9800 | | Tamaulipas | TDF | Rodríguez et al. 2008 |
| AGB [WI] | Tree | *Guettarda elliptica* | [10^[−0.8092]*[BA*0.97*TH]^[0.8247]] | kg | 214 | 0.9500 | | Jalisco | TDF | Martínez-Yrizar et al. 1992 |
| AGB [WI] | Tree | *Haematoxylon brasiletto* | [0.3700]*[DBH^1.9600] | kg | 39 | 0.8500 | | Sinaloa | TDF | Návar 2009c |
| AGB [WI] | Tree | *Haematoxylon brasiletto* | [0.1124]*[SUM[$D_{0.30}$^2]] | kg | 5 | 0.9500 | 22.5 | Nuevo León | TT | Foroughbakhch et al. 2006 |
| AGB [WI] | Tree | *Harpalyce arborescensis* | [0.401524]*[DBH^1.83808] | kg | 16 | 0.9200 | | Tamaulipas | TDF | Rodríguez et al. 2008 |
| AGB [WI] | Tree | *Helietta parvifolia* | [1205.6]*[Vol^0.925] | kg | 15 | 0.8300 | 0.0536 | Nuevo León | TT | Návar et al. 2001 |

**Table 7** (continued)

| Stock [component] | Life form | Genus \| Species \| Species group vegetation | Equation | Unit of measure | Sample | r2 | SE | State of Mexico | Vegetation type associated | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| AGB [WI] | Tree | *Heliocarpus appendiculatus* | [[Exp[4.9375]]*[[DBH^2]^1.0583]]*[1.14]/ 1000000 | Mg | 66 | 0.9300 | | Veracruz | ETF | Hughes et al. 1999 |
| AGB [WI] | Tree | *Heliocarpus pallidus* | [10^[−0.8092]*[BA*0.69*TH]^[0.8247]] | kg | 214 | 0.9500 | | Jalisco | TDF | Martínez-Yrizar et al. 1992 |
| AGB [WI] | Tree | *Hevea brasiliensis* | [Exp[−3.1426]*[DBH^2.69273]] | kg | 28 | 0.9860 | | Oaxaca | CF | Rojo et al., 2005 |
| AGB [WI] | Tree | *Hevea brasiliensis* | [0.36]*[DBH^2.089] | kg | 20 | 0.8600 | | Veracruz | CF | Monroy and Návar 2004 |
| AGB [WI] | Tree | *Hevea brasiliensis* | [13.50436]+[[0.0199091]*[[DBH^2]*[TH]]] | kg | 20 | 0.8300 | | Veracruz | CF | Monroy and Návar 2004 |
| AGB [WI] | Tree | *Inga* | [Exp[−1.76]*[DBH^2.26]] | kg | 12 | 0.9700 | | Oaxaca | TMCF | Acosta et al. 2002 |
| AGB [WI] | Tree | *Inga vera* | [Exp[−1.76]*[DBH^2.26]] | kg | 12 | 0.9700 | | Oaxaca | TMCF | Acosta et al. 2002 |
| AGB [WI] | Tree | *Inga vera* | [Exp[−4.0400]*[DBH^4.0000]*[[DBH^−0.2900]^2]] | kg | 22 | 0.9700 | | Chiapas | ETF | Douterlungne et al. 2013 |
| AGB [WI] | Tree | *Ipomoea arborescens* | [Exp[−4.005]*[DBH^2.653]] | kg | 8 | 0.9300 | | Morelos | TDF | Gómez 2008 |
| AGB [WI] | Tree | *Ipomoea arborescens* | [0.3700]*[DBH^1.9600] | kg | 39 | 0.8500 | | Sinaloa | TDF | Návar 2009c |
| AGB [WI] | Tree | *Ipomoea wolcottiana* | [10^[−0.8092]*[BA*0.57*TH]^[0.8247]] | kg | 214 | 0.9500 | | Jalisco | TDF | Martínez-Yrizar et al. 1992 |
| AGB [WI] | Tree | *Jatropha angustifolia* | [0.0841]*[DBH^2.41] | kg | 5 | 0.7900 | | Sinaloa | TDF | Návar 2009b |
| AGB [WI] | Tree | *Jatropha malacophylla* | [10^[−0.8092]*[BA*0.26*TH]^[0.8247]] | kg | 214 | 0.9500 | | Jalisco | TDF | Martínez-Yrizar et al. 1992 |
| AGB [WI] | Tree | *Juniperus flaccida* | [0.209142]*[DBH^1.698] | kg | 256 | 0.9700 | | Tamaulipas | POF | Rodríguez et al. 2009 |
| AGB [WI] | Tree | *Juniperus flaccida* | [Exp[−1.6469]*[DBH^2.1255]] | kg | 8 | 0.9900 | | Nuevo León | OPF | Rodríguez et al. 2007 |
| AGB [WI] | Tree | *Juniperus flaccida\| Pinus pseudostrobus\| Quercus cambyi\| Quercus laceyi\| Quercus rysophylla* | [Exp[−2.3739]*[DBH^2.4154]] | kg | 39 | 0.9600 | | Nuevo León | OPF | Rodríguez et al. 2007 |
| AGB [WI] | Tree | *Laguncularia racemosa* | [Exp[−1.5919]*[DBH^2.1924]] | kg | 34 | 0.9700 | | Campeche | M | Day et al. 1987 |
| AGB [WI] | Tree | *Liquidambar* | [Exp[−2.22]*[DBH^2.45]] | kg | 10 | 0.9900 | | Oaxaca | TMCF | Acosta et al. 2002 |
| AGB [WI] | Tree | *Liquidambar macrophylla* | [Exp[−2.22]*[DBH^2.45]] | kg | 10 | 0.9900 | | Oaxaca | TMCF | Acosta et al. 2002 |
| AGB [WI] | Tree | *Liquidambar styraciflua* | [0.180272]*[DBH^2.27177] | kg | 74 | 0.9600 | | Tamaulipas | TMCF | Rodríguez et al., 2006 |
| AGB [WI] | Tree | *Lonchocarpus* | [10^[−0.8092]*[BA*0.6521*TH]^[0.8247]] | kg | 214 | 0.9500 | | Jalisco | TDF | Martínez-Yrizar et al. 1992 |
| AGB [WI] | Tree | *Lonchocarpus constrictus* | [10^[−0.8092]*[BA*0.93*TH]^[0.8247]] | kg | 214 | 0.9500 | | Jalisco | TDF | Martínez-Yrizar et al. 1992 |

**Table 7** (continued)

| Stock [component] | Life form | Genus \| Species \| Species group vegetation | Equation | Unit of measure | Sample | r2 | SE | State of Mexico | Vegetation type associated | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| AGB [WI] | Tree | *Lonchocarpus lanceolatus* | [10^[−0.8092]*[BA*0.6521*TH]^[0.8247]] | kg | 214 | 0.9500 | | Jalisco | TDF | Martínez-Yrizar et al. 1992 |
| AGB [WI] | Tree | *Lonchocarpus unifoliolatus* | [[Exp[4.9375]]*[[DBH^2]^1.0583]]*[1.14]/1000000 | Mg | 66 | 0.9300 | | Veracruz | ETF | Hughes et al. 1999 |
| AGB [WI] | Tree | *Lysiloma divaricatum* | [Exp[−1.852]*[DBH^2.378]] | kg | 8 | 0.9900 | | Morelos | TDF | Gómez 2008 |
| AGB [WI] | Tree | *Lysiloma divaricatum* | [0.3700]*[DBH^1.9600] | kg | 39 | 0.8500 | | Sinaloa | TDF | Návar 2009c |
| AGB [WI] | Tree | *Lysiloma divaricatum* | [0.0841]*[DBH^2.41] | kg | 10 | 0.7900 | | Sinaloa | TDF | Návar 2009b |
| AGB [WI] | Tree | *Lysiloma latisiliquum* | Exp[−2.148]*[[[DBH]*[TH]*[WD]]^1.364] | kg | 15 | 0.9230 | | Quintana Roo | SETF | Guyot 2011 |
| AGB [WI] | Tree | *Lysiloma microphylla* | [10^[−0.8092]*[BA*0.92*TH]^[0.8247]] | kg | 214 | 0.9500 | | Jalisco | TDF | Martínez-Yrizar et al. 1992 |
| AGB [WI] | Tree | *Manilkara zapota* | [0.0447]*[DBH^2]*[TH] | kg | 20 | 0.9800 | | Quintana Roo | SETF | Cairns et al. 2003 |
| AGB [WI] | Tree | *Manilkara zapota* | [0.0034]+[[0.0482]*[DBH^2]*[TH]] | kg | 16 | 0.8900 | | Quintana Roo | SETF | Cairns et al. 2003 |
| AGB [WI] | Tree | *Metopium brownei* | Exp[−2.148]*[[[DBH]*[TH]*[WD]]^1.364] | kg | 15 | 0.9230 | | Quintana Roo | SETF | Guyot 2011 |
| AGB [WI] | Tree | *Miconia argentea* | [[Exp[4.9375]]*[[DBH^2]^1.0583]]*[1.14]/1000000 | Mg | 66 | 0.9300 | | Veracruz | ETF | Hughes et al. 1999 |
| AGB [WI] | Tree | *Mimosa albida* | [0.23855*DBH^1.92242] | kg | 44 | 0.9600 | | Tamaulipas | TDF | Rodríguez et al. 2008 |
| AGB [WI] | Tree | *Mirandaceltis monoica* | [0.062394]*[DBH^2.71448] | kg | 16 | 0.9500 | | Tamaulipas | TDF | Rodríguez et al. 2008 |
| AGB [WI] | Tree | *Myriocarpa longipes* | [[Exp[4.9375]]*[[DBH^2]^1.0583]]*[1.14]/1000000 | Mg | 66 | 0.9300 | | Veracruz | ETF | Hughes et al. 1999 |
| AGB [WI] | Tree | *Myrospermum frutescens* | [0.624]*[DBH^2] | kg | 5 | 0.9800 | | Nuevo León | TT | Foroughbakhch et al. 2006 |
| AGB [WI] | Tree | *Nectandra ambigens* | [[Exp[4.9375]]*[[DBH^2]^1.0583]]*[1.14]/1000000 | Mg | 66 | 0.9300 | | Veracruz | ETF | Hughes et al. 1999 |
| AGB [WI] | Tree | *Nectandra sanguínea* | [0.004038]*[DBH^3.35693] | kg | 20 | 0.9500 | | Tamaulipas | TMCF | Rodríguez et al., 2006 |
| AGB [WI] | Tree | *Nicotiana glauca* | [0.182197]*[DBH^2.22818] | kg | 24 | 0.9500 | | Tamaulipas | TDF | Rodríguez et al. 2008 |
| AGB [WI] | Tree | *Ochroma pyramidale* | [Exp[−2.4500]*[DBH^2.3000]] | kg | 32 | 0.9000 | | Chiapas | ETF | Douterlungne et al. 2013 |
| AGB [WI] | Tree | *Omphalea oleifera* | [[Exp[4.9375]]*[[DBH^2]^1.0583]]*[1.14]/1000000 | Mg | 66 | 0.9300 | | Veracruz | ETF | Hughes et al. 1999 |
| AGB [WI] | Tree | Other species of POF | [1.3169*DBH^1.7108] | kg | | 0.9600 | | Tamaulipas | POF | Rodríguez et al. 2009 |
| AGB [WI] | Tree | *Phoebe tampicensis* | [0.222776]*[DBH^2.33953] | kg | 24 | 0.9700 | | Tamaulipas | TDF | Rodríguez et al. 2008 |
| AGB [WI] | Tree | *Pinus* | [0.058]*[[[DBH^2]*TH]^0.919] | kg | 80 | 0.9700 | | Chiapas | POF | Ayala 1998 |

**Table 7** (continued)

| Stock [component] | Life form | Genus \| Species \| Species group vegetation | Equation | Unit of measure | Sample | r2 | SE | State of Mexico | Vegetation type associated | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| AGB [WI] | Tree | *Pinus* | [0.084]*[DBH^2.475] | kg | 80 | 0.9720 | | Chiapas | POF | Ayala et al. 2001 |
| AGB [WI] | Tree | *Pinus* | [1.2244]+[[0.01298]*[[$D_{0.0}$^2]*TH]] | kg | 56 | 0.8900 | | Durango | PF | González 2001 |
| AGB [WI] | Tree | *Pinus* | [Exp[−3.139]*[DBH^2.585]] | kg | 56 | 0.8300 | | Durango | PF | Návar 2010a |
| AGB [WI] | Tree | *Pinus* | [Exp[−2.818]*[DBH^2.574]] | kg | 520 | 0.9400 | | Chihuahua, Durango | PF | Návar 2010a |
| AGB [WI] | Tree | *Pinus* | [0.1229]*[DBH^2.3964] | kg | 81 | 0.9100 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [WI] | Tree | *Pinus* | [14.81]+[[2.585*$D_{0.0}$]]+[−2.82*[ln[TH]]]+ [−14.7*[ln[$D_{0.0}$]]]+[[0.009]*[[$D_{0.0}$^2]*[TH]]] | kg | 56 | 0.8600 | | Durango | CF | Návar et al. 2004b |
| AGB [WI] | Tree | *Pinus arizonica* | [Exp[−1.482]*[DBH^2.129]]] | kg | 30 | 0.8400 | 0.1697 | Chihuahua | PF | Návar 2010a |
| AGB [WI] | Tree | *Pinus arizonica* | [Exp[−3.573]*[DBH^2.746]]] | kg | 36 | 0.9600 | 0.0897 | Durango | PF | Návar 2010a |
| AGB [WI] | Tree | *Pinus arizonica* | [Exp[[−0.877]*[DBH^1.98]]] | kg | 60 | 0.8100 | 0.0560 | Durango | PF | Návar 2010a |
| AGB [WI] | Tree | *Pinus arizonica* | [0.0819]*[DBH^2.4293] | kg | 66 | 0.9700 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [WI] | Tree | *Pinus ayacahuite* | [0.058]*[[[DBH^2]*TH]^0.919] | kg | 1 | 0.9700 | | Chiapas | POF | Ayala 1998 |
| AGB [WI] | Tree | *Pinus ayacahuite* | [Exp[−3.066]*[DBH^2.646]]] | kg | 45 | 0.9700 | 0.0440 | Durango | PF | Návar 2010a |
| AGB [WI] | Tree | *Pinus ayacahuite* | [0.2893]*[DBH^2.1569] | kg | 58 | 0.9700 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [WI] | Tree | *Pinus cembroides* | [Exp[0.9173]*[DBH^1.0730]] | kg | 30 | 0.4467 | | Zacatecas | DS | Guerrero 2013 |
| AGB [WI] | Tree | *Pinus cooperi* | [0.2018]*[DBH^2.2907] | kg | 49 | 0.9400 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [WI] | Tree | *Pinus cooperi* | [Exp[−1.922]*[DBH^2.321]]] | kg | 20 | 0.9300 | 0.1596 | Durango | PF | Návar 2010a |
| AGB [WI] | Tree | *Pinus cooperi* | [Exp[−3.264]*[DBH^2.707]]] | kg | 12 | 0.9000 | 2.7400 | Durango | PF | Návar 2010a |
| AGB [WI] | Tree | *Pinus cooperi* | [14.81]+[[2.585*[ln[$D_{0.0}$^2]]*[TH]]]+ [[−2.82*[ln[$D_{0.0}$]]]]+[[−14.7]*[$D_{0.0}$]]+ [[0.009]*[ln[$D_{0.0}$^2]]*[TH]] | kg | 19 | 0.9400 | | Durango | CF | Návar et al. 2004b |
| AGB [WI] | Tree | *Pinus cooperi* | [22.3476]+[[4.9470]*DBH]+[0.4911*[DBH^2]]+ [0.0039*[[DBH^2]*TH]] | kg | | 0.9600 | | Durango | POF | Pimienta et al. 2007 |
| AGB [WI] | Tree | *Pinus devoniana* | [0.182]*[DBH^1.936] | kg | 20 | 0.8500 | | Guanajuato | CF | Méndez et al. 2011 |
| AGB [WI] | Tree | *Pinus durangensis* | [8.9546]*[DBH^2.9123] | g | 72 | 0.8424 | | Durango | PF | Montes de Oca et al. 2009 |
| AGB [WI] | Tree | *Pinus durangensis* | [0.1382]*[DBH^2.3573] | kg | 384 | 0.9100 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [WI] | Tree | *Pinus durangensis* | [Exp[−3.532]*[DBH^2.731]]] | kg | 30 | 0.9200 | 0.1478 | Chihuahua | PF | Návar 2010a |
| AGB [WI] | Tree | *Pinus durangensis* | [Exp[−3.416]*[DBH^2.715]]] | kg | 15 | 0.9600 | 0.1405 | Durango | PF | Návar 2010a |
| AGB [WI] | Tree | *Pinus durangensis* | [Exp[−2.084]*[DBH^2.323]]] | kg | 71 | 0.9400 | 0.0740 | Durango | PF | Návar 2010a |
| AGB [WI] | Tree | *Pinus durangensis* | [Exp[−2.108]*[DBH^2.373]] | kg | 60 | 0.9600 | 0.0190 | Durango | PF | Návar 2010a |
| AGB [WI] | Tree | *Pinus durangensis* | [14.81]+[[2.585*$D_{0.0}$]]+[−2.82*[ln[$D_{0.0}$^2]*[TH]]]+ [−14.7*[ln[$D_{0.0}$^2]*[TH]]] | kg | 25 | 0.8900 | | Durango | CF | Návar et al. 2004b |
| AGB [WI] | Tree | *Pinus engelmannii* | [0.1354]*[DBH^2.3033] | kg | 81 | 0.9400 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [WI] | Tree | *Pinus engelmannii* | [14.81]+[[2.585*$D_{0.0}$]]+[−2.82*[ln[$D_{0.0}$^2]*[TH]]]+ [−14.7*[[$D_{0.0}$^2]*[TH]]] | kg | 12 | 0.8800 | | Durango | CF | Návar et al. 2004b |
| AGB [WI] | Tree | *Pinus greggii* | [[6426.6]*[[DBH^2]*TH]^2]+[291.42*[[DBH^2]*TH]] | kg | 20 | 0.8865 | | Hidalgo | CF | Pacheco et al. 2007 |

**Table 7** (continued)

| Stock [component] | Life form | Genus \| Species \| Species group vegetation | Equation | Unit of measure | Sample | r2 | SE | State of Mexico | Vegetation type associated | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| AGB [WI] | Tree | *Pinus greggii* | [−3.193]+[[0.0256]*[[DBH^2]*TH]] | kg | 30 | 0.9923 | | Coahuila | PF | Aguilar 2009 |
| AGB [WI] | Tree | *Pinus greggii* | [29607]+[[−293.44]*[DBH^2]]+[[−46.21]*TH]+ [0.75*[[DBH^2]*TH]] | g | 20 | 0.9669 | | Coahuila | CF | Mora 2010 |
| AGB [WI] | Tree | *Pinus hartwegii* | [0.0635]*[DBH^2.4725] | kg | 29 | 0.9870 | | Estado de México | PF | Jímenez, 2010 |
| AGB [WI] | Tree | *Pinus herrerae* | [0.1354]*[DBH^2.3033] | kg | 81 | 0.9400 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [WI] | Tree | *Pinus leiophylla* | [Exp[−3.039]*[DBH^2.523]]] | kg | 12 | 0.9200 | 0.2237 | Durango | PF | Návar 2010a |
| AGB [WI] | Tree | *Pinus leiophylla* | [Exp[−3.549]*[DBH^2.787]]] | kg | 15 | 0.9400 | 0.0650 | Durango | PF | Návar 2010a |
| AGB [WI] | Tree | *Pinus leiophylla* | [0.1751]*[DBH^2.2629] | kg | 27 | 0.9300 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [WI] | Tree | *Pinus maximinoi* | [0.3780]*[DBH^2.1064] | kg | 92 | 0.9500 | | Chiapas | POF | González 2008 |
| AGB [WI] | Tree | *Pinus montezumae* | [0.058]*[[[DBH^2]*TH]^0.919] | kg | 6 | 0.9700 | | Chiapas | POF | Ayala 1998 |
| AGB [WI] | Tree | *Pinus montezumae* | [0.013]*[DBH^3.046] | kg | 15 | 0.9900 | | Estado de México | PF | Bonilla 2009 |
| AGB [WI] | Tree | *Pinus montezumae* | [1.30454]*[DBH^1.73099] | kg | 19 | 0.9900 | | Tamaulipas | POF | Rodríguez et al. 2009 |
| AGB [WI] | Tree | *Pinus oaxacana* | [0.058]*[[[DBH^2]*TH]^0.919] | kg | 5 | 0.9700 | | Chiapas | POF | Ayala 1998 |
| AGB [WI] | Tree | *Pinus oocarpa* | [0.058]*[[[DBH^2]*TH]^0.919] | kg | 17 | 0.9700 | | Chiapas | POF | Ayala 1998 |
| AGB [WI] | Tree | *Pinus oocarpa* | [[−10.4113]+[5.3998]]*[DBH+[0.8144]]*[DBH^2] | kg | 91 | 0.9500 | | Chiapas | POF | González 2008 |
| AGB [WI] | Tree | *Pinus oocarpa* | [0.1354]*[DBH^2.3033] | kg | 81 | 0.9400 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [WI] | Tree | *Pinus oocarpa* | [Exp[−3.065]*[DBH^2.625]]] | kg | 31 | 0.9300 | 0.0610 | Durango | PF | Návar 2010a |
| AGB [WI] | Tree | *Pinus oocarpa\| Pinus engelmannii\| Pseudotsuga menziesii\| Pinus herrerae* | [0.1354]*[DBH^2.3033] | kg | 81 | 0.9400 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [WI] | Tree | *Pinus patula* | [0.0514]*[DBH^2.5222] | kg | 18 | 0.9827 | | Oaxaca | POF | Pacheco 2011 |
| AGB [WI] | Tree | *Pinus patula* | [Exp[−1.8621]*[DBH^2.27675]] | kg | 27 | 0.9900 | | Puebla | PF | Castellanos et al. 1996 |
| AGB [WI] | Tree | *Pinus patula* | [0.0948]*[DBH^2.4079] | kg | 25 | 0.9900 | | Tlaxcala | PF | Díaz 2005 |
| AGB [WI] | Tree | *Pinus patula* | [5.338]+[[18.634]*[DBH^2]]*[TH] | kg | 18 | 0.9740 | | Hidalgo | POF | Figueroa et al. 2010 |
| AGB [WI] | Tree | *Pinus patula* | [0.407073]*[DBH^2.02617] | kg | 111 | 0.9800 | | Tamaulipas | POF | Rodríguez et al. 2009 |
| AGB [WI] | Tree | *Pinus patula* | [0.0019]*[[DBH*TH]^1.98] | kg | 30 | 0.8700 | | Oaxaca | CF | Rodríguez et al. 2012 |
| AGB [WI] | Tree | *Pinus patula* | [0.0357]*[DBH^2.6916] | kg | 25 | 0.9828 | | Tlaxcala | PF | Díaz et al. 2007 |
| AGB [WI] | Tree | *Pinus pinceana* | [−1.8492]*[DBH^2.0374] | kg | 40 | 0.6700 | | Zacatecas | DS | Jiménez 2013 |
| AGB [WI] | Tree | *Pinus pseudostrobus* | [0.35179]*[DBH^2] | kg | | 0.9410 | 0.031 | Nuevo León | PF | Aguirre et al., 2011 |
| AGB [WI] | Tree | *Pinus pseudostrobus* | [2354.14*Exp[−57.453/DBH]+1.3] | kg | | | | Nuevo León | PF | Aguirre et al. 2007 |
| AGB [WI] | Tree | *Pinus pseudostrobus* | [0.058]*[[[DBH^2]*TH]^0.919] | kg | 14 | 0.9700 | | Chiapas | POF | Ayala 1998 |

**Table 7** (continued)

| Stock [component] | Life form | Genus \| Species \| Species group vegetation | Equation | Unit of measure | Sample | r2 | SE | State of Mexico | Vegetation type associated | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| AGB [WI] | Tree | *Pinus pseudostrobus* | [0.537]*[DBH^1.882] | kg | 8 | 0.8900 | | Nuevo León | POF | Domínguez 2005 |
| AGB [WI] | Tree | *Pinus pseudostrobus* | [2354.14]*[Exp[[−57.453]/DBH]]]+1.3 | kg | 8 | 0.9200 | | Nuevo León | POF | Domínguez et al. 2009 |
| AGB [WI] | Tree | *Pinus pseudostrobus* | [0.003]*[DBH^3.383] | kg | 20 | 0.9000 | | Guanajuato | CF | Méndez et al.,2011 |
| AGB [WI] | Tree | *Pinus pseudostrobus* | [Exp[−2.611]*[DBH^2.531]]] | kg | 24 | 0.8800 | 0.0470 | Durango | PF | Návar 2010a |
| AGB [WI] | Tree | *Pinus pseudostrobus* | [7027]*[DBH^2.1924] | kg | 20 | 0.8600 | | Estado de México | PF | Palma 2011 |
| AGB [WI] | Tree | *Pinus pseudostrobus* | [0.128495]*[DBH^2.36444] | kg | 208 | 0.9900 | | Tamaulipas | POF | Rodríguez et al. 2009 |
| AGB [WI] | Tree | *Pinus pseudostrobus* | [Exp[−3.1641]*[DBH^2.5996]] | kg | 8 | 0.9800 | | Nuevo León | OPF | Rodríguez et al. 2007 |
| AGB [WI] | Tree | *Pinus pseudostrobus\| Quercus rysophylla* | [Exp[−2.8164]*[DBH^2.5282]] | kg | 16 | 0.9700 | | Nuevo León | OPF | Rodríguez et al. 2007 |
| AGB [WI] | Tree | *Pinus teocote* | [0.40196]*[DBH^2] | kg | | 0.9480 | 0.0332 | Nuevo León | PF | Aguirre and Jiménez 2011 |
| AGB [WI] | Tree | *Pinus teocote* | [2543.055]*[Exp[−56.209/DBH]+1.3] | kg | | | | Nuevo León | PF | Aguirre et al. 2007 |
| AGB [WI] | Tree | *Pinus teocote* | [0.508]*[DBH^1.933] | kg | 8 | 0.9000 | | Nuevo León | POF | Domínguez 2005 |
| AGB [WI] | Tree | *Pinus teocote* | [2543.05]*[Exp[[−56.209/DBH]]]+1.3 | kg | 8 | 0.9300 | | Nuevo León | POF | Domínguez et al. 2009 |
| AGB [WI] | Tree | *Pinus teocote* | [Exp[−3.182]*[DBH^2.702]]] | kg | 49 | 0.9600 | | Durango | PF | Návar 2010a |
| AGB [WI] | Tree | *Pinus teocote* | [0.032495]*[DBH^2.76658] | kg | 209 | 0.9900 | | Tamaulipas | POF | Rodríguez et al. 2009 |
| AGB [WI] | Tree | *Pinus teocote* | [0.2057]*[DBH^2.2583] | kg | 56 | 0.9600 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [WI] | Tree | *Piper* | [0.3627]+[[0.0322]*[DBH^2]*TH] | kg | 64 | 0.7200 | | Quintana Roo | SETF | Cairns et al. 2003 |
| AGB [WI] | Tree | *Piper* | [[Exp[4.9375]]*[[DBH^2]^1.0583]]*[1.14]/1000000 | Mg | 66 | 0.9300 | | Veracruz | ETF | Hughes et al. 1999 |
| AGB [WI] | Tree | *Piscidia piscipula* | [0.064066]*[DBH^2.62323] | kg | 30 | 0.9500 | | Tamaulipas | TDF | Rodríguez et al. 2008 |
| AGB [WI] | Tree | *Pithecellobium dulce* | [0.312]*[SUM[$D_{0.30}$^2]] | kg | 5 | 0.9200 | 37.4 | Nuevo León | TT | Foroughbakhch et al. 2006 |
| AGB [WI] | Tree | *Pithecellobium mangense* | [0.3700]*[DBH^1.9600] | kg | 39 | 0.8500 | | Sinaloa | TDF | Návar 2009c |
| AGB [WI] | Tree | *Pithecellobium pallens* | [1361.3]*[Vol^1.0023] | kg | 15 | 0.9200 | | Nuevo León | TT | Návar et al. 2001 |
| AGB [WI] | Tree | *Podocarpus reichei* | [0.132107]*[DBH^2.22170] | kg | 103 | 0.9300 | | Tamaulipas | TMCF | Rodríguez et al. 2007 |
| AGB [WI] | Tree | *Poulsenia armata* | [[Exp[4.9375]]*[[DBH^2]^1.0583]]*[1.14]/1000000 | Mg | 66 | 0.9300 | | Veracruz | ETF | Hughes et al. 1999 |
| AGB [WI] | Tree | *Pouteria campechiana* | [0.0358]*[DBH^2]*[TH] | kg | 11 | 0.9400 | | Quintana Roo | SETF | Cairns et al. 2003 |



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**Table 7** (continued)

| Stock [component] | Life form | Genus \| Species \| Species group vegetation | Equation | Unit of measure | Sample | r2 | SE | State of Mexico | Vegetation type associated | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| AGB [WI] | Tree | *Pouteria unilocularis* | [0.0465]*[DBH^2]*[TH] | kg | 27 | 0.9600 | | Quintana Roo | SETF | Cairns et al. 2003 |
| AGB [WI] | Tree | *Pouteria unilocularis* | [0.8322]+[[0.0429]*[DBH^2]*TH] | kg | 59 | 0.9500 | | Quintana Roo | SETF | Cairns et al. 2003 |
| AGB [WI] | Tree | *Prosopis articulata* | [[2.618]*[ln[BP]]]+[5.802] | kg | 6 | 0.9800 | | Baja California Sur | MS | León et al. 2005 |
| AGB [WI] | Tree | *Prosopis laevigata* | [−0.9538]*[$D_{0.0}$^2.0457] | kg | 30 | 0.8600 | | Zacatecas | DS | Jiménez 2013 |
| AGB [WI] | Tree | *Prosopis palmeri* | [Exp[[0.797]+[[3.1416]*[RC1]*[RC2]*[0.177]]] | kg | 6 | 0.9400 | | Baja California Sur | MS | León et al. 2005 |
| AGB [WI] | Tree | *Prunus persica* | [Exp[−2.76]*[DBH^2.37]] | kg | 11 | 0.9500 | | Oaxaca | TMCF | Acosta 2003 |
| AGB [WI] | Tree | *Pseudolmedia oxyphyllaria* | [[Exp[4.9375]]*[[DBH^2]^1.0583]]*[1.14]/1000000 | Mg | 66 | 0.9300 | | Veracruz | ETF | Hughes et al. 1999 |
| AGB [WI] | Tree | *Pseudotsuga menziesii* | [0.1354]*[DBH^2.3033] | kg | 21 | 0.9400 | | Chihuahua, Durango | PF | Návar 2009c |
| AGB [WI] | Tree | *Psidium guajava* | [1.7737]*[DBH^1.2282] | kg | 18 | 0.8800 | | Aguascalientes | CF | Meraz et al. 2013 |
| AGB [WI] | Tree | *Psidium guajava* | [0.246689]*[DBH^2.24992] | kg | 18 | 0.9900 | | Tamaulipas | TDF | Rodríguez et al. 2008 |
| AGB [WI] | Tree | *Quercus* | [0.0342]*[DBH^2.7590] | kg | 135 | 0.9300 | | Michoacán | OF | Aguilar et al. 2012 |
| AGB [WI] | Tree | *Quercus* | [0.45534]*[DBH^2] | kg | | 0.9470 | 0.0268 | Nuevo León | OPF | Aguirre and Jiménez 2011 |
| AGB [WI] | Tree | *Quercus* | [4371.395]*[Exp][−70.972/DBH]]]+1.3] | kg | | | | Nuevo León | OPF | Aguirre et al. 2007 |
| AGB [WI] | Tree | *Quercus* | [0.092]*[DBH^2.448] | kg | 16 | 0.9000 | | Nuevo León | POF | Domínguez 2005 |
| AGB [WI] | Tree | *Quercus* | [4371.4]*[Exp[[−70.972/DBH]]]+1.3] | kg | 16 | 0.8900 | | Nuevo León | POF | Domínguez et al. 2009 |
| AGB [WI] | Tree | *Quercus* | [0.1269]*[DBH^2.5169] | kg | 44 | | | Chiapas | POF | González 2008 |
| AGB [WI] | Tree | *Quercus* | [0.0890]*[DBH^2.5226] | kg | 118 | 0.9500 | | Chihuahua, Durango | OPF | Návar 2009c |
| AGB [WI] | Tree | *Quercus* | [Exp[−2.144]*[DBH^2.403]]] | kg | 45 | 0.8900 | 0.1275 | Chihuahua | OPF | Návar 2010a |
| AGB [WI] | Tree | *Quercus* | [Exp[−2.754]*[DBH^2.574]]] | kg | 17 | 0.9400 | 0.0890 | Durango | OPF | Návar 2010a |
| AGB [WI] | Tree | *Quercus* | [Exp[−2.874]*[DBH^2.631]]] | kg | 106 | 0.9300 | 0.0780 | Chihuahua, Durango | OPF | Návar 2010a |
| AGB [WI] | Tree | *Quercus* | [0.038424*DBH^2.82139] | kg | 19 | 0.9700 | | Tamaulipas | TDF | Rodríguez et al. 2008 |
| AGB [WI] | Tree | *Quercus* | [Exp[−2.27]*[DBH^2.39]] | kg | 8 | 0.9900 | | Oaxaca | TMCF | Acosta et al. 2002 |
| AGB [WI] | Tree | *Quercus* | [0.283]*[[[DBH^2]*TH]^0.807] | kg | 50 | 0.9540 | | Chiapas | POF | Ayala 1998 |
| AGB [WI] | Tree | *Quercus* | [0.010702]*[DBH^3.05082] | kg | 57 | 0.9700 | | Tamaulipas | POF | Rodríguez et al. 2009 |
| AGB [WI] | Tree | *Quercus cambyi* | [Exp[−2.3112]*[DBH^2.4497]] | kg | 8 | 0.9700 | | Nuevo León | OPF | Rodríguez et al. 2007 |
| AGB [WI] | Tree | *Quercus sideroxyla* | [0.0890]*[DBH^2.5226] | kg | 51 | 0.9500 | | Chihuahua, Durango | OPF | Návar 2009c |
| AGB [WI] | Tree | *Quercus canbyi* | [0.092]*[DBH^2.448] | kg | 4 | 0.9000 | | Nuevo León | POF | Domínguez 2005 |
| AGB [WI] | Tree | *Quercus castanea* | [0.0416]*[DBH^2.7154] | kg | 118 | 0.9700 | | Michoacán | OF | |

**Table 7** (continued)

| Stock [component] | Life form | Genus \| Species \| Species group vegetation | Equation | Unit of measure | Sample | r2 | SE | State of Mexico | Vegetation type associated | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Aguilar et al. 2012 |
| AGB [WI] | Tree | *Quercus crassifolia* | [0.283]*[[[DBH^2]*TH]^0.807] | kg | 7 | 0.9540 | | Chiapas | POF | Ayala 1998 |
| AGB [WI] | Tree | *Quercus crispipilis* | [0.283]*[[[DBH^2]*TH]^0.807] | kg | 11 | 0.9540 | | Chiapas | POF | Ayala 1998 |
| AGB [WI] | Tree | *Quercus gambelii* | [0.0890]*[DBH^2.5226] | kg | 118 | 0.9500 | | Chihuahua, Durango | OPF | Návar 2009c |
| AGB [WI] | Tree | *Quercus germana* | [0.892617]*[DBH^1.84697] | kg | 28 | 0.9500 | | Tamaulipas | POF | Rodríguez et al. 2009 |
| AGB [WI] | Tree | *Quercus laceyi* | [0.092]*[DBH^2.448] | kg | 4 | 0.9000 | | Nuevo León | POF | Domínguez 2005 |
| AGB [WI] | Tree | *Quercus laceyi* | [Exp[−2.4344]*[DBH^2.5069]] | kg | 7 | 0.9800 | | Nuevo León | OPF | Rodríguez et al. 2007 |
| AGB [WI] | Tree | *Quercus laceyi\| Quercus cambyi* | [Exp[−2.3517]*[DBH^2.4700]] | kg | 15 | 0.9800 | | Nuevo León | OPF | Rodríguez et al. 2007 |
| AGB [WI] | Tree | *Quercus laeta* | [0.0333]*[DBH^2.6648] | kg | 17 | 0.9200 | | Michoacán | OF | Aguilar et al. 2012 |
| AGB [WI] | Tree | *Quercus laurina* | [0.283]*[[[DBH^2]*TH]^0.807] | kg | 17 | 0.9540 | | Chiapas | POF | Ayala 1998 |
| AGB [WI] | Tree | *Quercus laurina* | [0.0406]*[DBH^2.7339] | kg | 14 | 0.9622 | | Estado de México | OF | Tomas 2013 |
| AGB [WI] | Tree | *Quercus magnoliifolia* | [Exp[−3.369]*[DBH^2.934]] | kg | 12 | 0.9800 | | Morelos | OF | Gómez 2008 |
| AGB [WI] | Tree | *Quercus magnoliifolia* | [0.0345]*[DBH^2.9334] | kg | 12 | 0.9800 | | Morelos | OF | Gomez et al., 2011 |
| AGB [WI] | Tree | *Quercus magnoliifolia\| Lysiloma divaricatum\| Acacia cochliacantha\|* | [Exp[−1.566]*[DBH^2.276]] | kg | 46 | 0.9420 | | Morelos | TDF | Gómez 2008 |
| AGB [WI] | Tree | *Quercus peduncularis* | [Exp[−2.27]*[DBH^2.39]] | kg | 8 | 0.9900 | | Oaxaca | TMCF | Acosta et al. 2002 |
| AGB [WI] | Tree | *Quercus polymorpha* | [0.092]*[DBH^2.448] | kg | 4 | 0.9000 | | Nuevo León | POF | Domínguez 2005 |
| AGB [WI] | Tree | *Quercus rugosa* | [0.283]*[[[DBH^2]*TH]^0.807] | kg | 7 | 0.9540 | | Chiapas | POF | Ayala 1998 |
| AGB [WI] | Tree | *Quercus rugosa* | [0.0890]*[DBH^2.5226] | kg | 118 | 0.9500 | | Chihuahua, Durango | OPF | Návar 2009c |
| AGB [WI] | Tree | *Quercus rugosa* | [0.0402]*[DBH^2.757] | kg | 12 | 0.9789 | | Estado de México | OF | Tomas 2013 |
| AGB [WI] | Tree | *Quercus rysophylla* | [0.092]*[DBH^2.448] | kg | 4 | 0.9000 | | Nuevo León | POF | Domínguez 2005 |
| AGB [WI] | Tree | *Quercus rysophylla* | [0.266424]*[DBH^2.02768] | kg | 8 | 0.9700 | | Tamaulipas | TMCF | Rodríguez et al., 2006 |
| AGB [WI] | Tree | *Quercus rysophylla* | [Exp[−2.2089]*[DBH^2.3736]] | kg | 8 | 0.9700 | | Nuevo León | OPF | Rodríguez et al. 2007 |
| AGB [WI] | Tree | *Quercus rysophylla* | [0.970526]*[DBH^1.83733] | kg | 25 | 0.9600 | | Tamaulipas | POF | Rodríguez et al. 2009 |
| AGB [WI] | Tree | *Quercus sartorii* | [0.221123]*[DBH^2.20188] | kg | 143 | 0.9500 | | Tamaulipas | TMCF | Rodríguez et al., 2006 |
| AGB [WI] | Tree | *Quercus segoviensis* | [0.283]*[[[DBH^2]*TH]^0.807] | kg | 2 | 0.9540 | | Chiapas | POF | Ayala 1998 |
| AGB [WI] | Tree | *Quercus sideroxyla* | [Exp[−2.592]*[DBH^2.585]]] | kg | 30 | 0.9500 | 0.1093 | Durango | OPF | Návar 2010a |
| AGB [WI] | Tree | *Quercus sp.\| Inga sp.\| Liquidambar sp.* | [Exp[−2.193]*[DBH^2.412]] | kg | 30 | 0.9860 | | Oaxaca | TMCF | Acosta et al. 2002 |

**Table 7** (continued)

| Stock [component] | Life form | Genus \| Species \| Species group vegetation | Equation | Unit of measure | Sample | r2 | SE | State of Mexico | Vegetation type associated | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| AGB [WI] | Tree | *Quercus xalapensis* | [0.308451]*[DBH^2.13230] | kg | 143 | 0.9800 | | Tamaulipas | TMCF | Rodríguez et al., 2006 |
| AGB [WI] | Tree | *Quercus xalapensis* | [0.766406]*[DBH^1.93843] | kg | 33 | 0.9800 | | Tamaulipas | POF | Rodríguez et al. 2009 |
| AGB [WI] | Tree | *Rapanea* | [Exp[−1.99]*[DBH^2.26]] | kg | 6 | 0.9900 | | Oaxaca | TMCF | Acosta et al. 2002 |
| AGB [WI] | Tree | *Rapanea myricoides* | [Exp[−1.99]*[DBH^2.26]] | kg | 6 | 0.9900 | | Oaxaca | TMCF | Acosta et al. 2002 |
| AGB [WI] | Tree | *Rhizophora mangle* | [Exp[−1.5605]*[DBH^2.5072]] | kg | 35 | 0.9400 | | Campeche | M | Day et al. 1987 |
| AGB [WI] | Tree | *Robinsonella discolor* | [0.23736]*[DBH^2.16175] | kg | 24 | 0.9900 | Tamaulipas | TDF | Rodríguez et al. 2008 | |
| AGB [WI] | Tree | *Rollinia* | [[Exp[4.9375]]*[[DBH^2]^1.0583]]*[1.14]/1000000 | Mg | 66 | 0.9300 | | Veracruz | ETF | Hughes et al. 1999 |
| AGB [WI] | Tree | *Rubus palmeri* | [0.3700]*[DBH^1.9600] | kg | 39 | 0.8500 | | Sinaloa | TDF | Návar 2009c |
| AGB [WI] | Tree | *Sargentia greggii* | [0.078545*DBH^2.58952] | kg | 11 | 0.9700 | | Tamaulipas | TDF | Rodríguez et al. 2008 |
| AGB [WI] | Tree | *Talisia olivaeformis* | [0.0493]+[[0.0480]*[DBH^2]*[TH]] | kg | 24 | 0.9800 | | Quintana Roo | SETF | Cairns et al. 2003 |
| AGB [WI] | Tree | *Ternstroemia sylvatica* | [0.132193]*[DBH^2.49568] | kg | 15 | 0.9900 | | Tamaulipas | POF | Rodríguez et al. 2009 |
| AGB [WI] | Tree | *Ternstroemia sylvatica* | [0.035689]*[DBH^2.56487] | kg | 143 | 0.9500 | | Tamaulipas | TMCF | Rodríguez et al., 2006 |
| AGB [WI] | Tree | *Thouinia paucidentata* | [10^[−0.8092]*[BA*0.98*TH]^[0.8247]] | kg | 214 | 0.9500 | | Jalisco | TDF | Martínez-Yrizar et al. 1992 |
| AGB [WI] | Tree | *Tilia houghii* | [0.048454*DBH^2.58164] | kg | 10 | 0.9900 | | Tamaulipas | TDF | Rodríguez et al. 2008 |
| AGB [WI] | Tree | *Trichilia havanensis* | [0.130169]*[DBH^2.34924] | kg | 20 | 0.9900 | | Tamaulipas | TDF | Rodríguez et al. 2008 |
| AGB [WI] | Tree | *Trichilia minutiflora* | [0.0465]*[DBH^2]*[TH] | kg | 37 | 0.9700 | | Quintana Roo | SETF | Cairns et al. 2003 |
| AGB [WI] | Tree | *Trichilia minutiflora* | [0.4125]+[[0.0421]*[DBH^2]*TH] | kg | 170 | 0.9600 | | Quintana Roo | SETF | Cairns et al. 2003 |
| AGB [WI] | Tree | *Trichospermum mexicanun* | [Exp[−2.8200]*[DBH^2.4200]] | kg | 24 | 0.9600 | | Chiapas | ETF | Douterlungne et al. 2013 |
| AGB [WI] | Tree | *Trichospermum mexicanun* | [[Exp[4.9375]]*[[DBH^2]^1.0583]]*[1.14]/1000000 | Mg | 66 | 0.9300 | | Veracruz | ETF | Hughes et al. 1999 |
| AGB [WI] | Tree | *Wigandia urens* | [59.979]*[[3.1416]*[[[[DBH^2]/4]]^1.319]] | g | 8 | 0.8560 | | Distrito Federal | XS | Cano 1994 |
| AGB [WI] | Tree | *Wimmeria concolor* | [0.346847]*[DBH^1.99059] | kg | 24 | 0.9700 | | Tamaulipas | POF | Rodríguez et al. 2009 |
| AGB [WI] | Tree | *Yucca filifera* | [[−40.102]+[1.787]]*[[DBH]+[10.182]]*[TH] | kg | 31 | 0.9600 | 10.13 | Zacatecas | DS | Castañuela 2013 |
| AGB [WI] | Tree | *Zanthoxylum fagara* | [10^[−0.8092]*[BA*0.85*TH]^[0.8247]] | kg | 214 | 0.9500 | | Jalisco | TDF | Martínez-Yrizar et al. 1992 |

**Table 7** (continued)

| Stock [component] | Life form | Genus \| Species \| Species group vegetation | Equation | Unit of measure | Sample | r2 | SE | State of Mexico | Vegetation type associated | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| AGB [WI] | Tree | *Zanthoxylum kellermanii* | [0.00166]*[DBH^3.6586] | kg | 22 | 0.9900 | | Oaxaca | ETF | Manzano 2010 |
| BGB [R] | Tree | Trees of TT | [0.14]*[$D_{0.0}$^1.5588] | kg | 20 | 0.5000 | | Nuevo León | TT | De los Rios and Návar 2010 |
| BGB [R] | Tree | *Eucalyptus* | [0.4037]^[DBH*0.1766] | kg | 6 | 0.7787 | | Oaxaca | CF | Toribio 2006 |
| BGB [R] | Tree | *Eucalyptus* | [2.497]^[DBH*0.1186] | kg | 6 | 0.9598 | | Oaxaca | CF | Toribio 2006 |
| BGB [R] | Tree | *Pinus* | [0.0005]*[$D_{0.0}$^3.92] | kg | 20 | 0.7700 | | Nuevo León | PF | De los Ríos and Návar 2010a |
| BGB [R] | Tree | *Pinus* | [0.0202]*[DBH^2.6480] | kg | 721 | 0.9400 | | Chihuahua, Durango | PF | Návar 2009c |
| CC [WI] | Tree | *Abies religiosa* | [0.035]*[DBH^2.513] | kg | 26 | 0.993 | | Tlaxcala | FF | Avendaño et al. 2009 |
| CC [WI] | Tree | *Alnus arguta* | [0.0809]*[DBH^2.2782] | kg | 22 | 0.9680 | | Hidalgo | TMCF | Acosta et al. 2011 |
| CC [WI] | Tree | *Alnus firmifolia* | [0.009]*[DBH^2.7517] | kg | 16 | 0.9313 | | Estado de México | POF | Juárez 2008 |
| CC [WI] | Tree | *Clethra mexicana* | [0.2249]*[DBH^1.8168] | kg | 15 | 0.9463 | | Hidalgo | TMCF | Acosta et al. 2011 |
| CC [WI] | Tree | *Cupressus lindleyi* | [0.2637]*[DBH^1.7698] | kg | 18 | 0.9312 | | Estado de México | PF | Vigil 2010 |
| CC [WI] | Tree | *Pinus cooperi* | [11.509]+[[−3.1229]*DBH]+[0.31*[DBH^2]]+ [0.0004*[[DBH^2]*TH]] | kg | | 0.9900 | | Durango | POF | Pimienta et al. 2007 |
| CC [WI] | Tree | *Pinus greggii* | [[3887.7]*[[DBH^2]*TH]^2]+ [147.36*[[DBH^2]*TH]] | kg | 20 | 0.8850 | | Hidalgo | CF | Pacheco et al. 2007 |
| CC [WI] | Tree | *Pinus hartwegii* | [0.0309]*[DBH^2.4722] | kg | 29 | 0.9870 | | Estado de México | PF | Jiménez 2010 |
| CC [WI] | Tree | *Pinus montezumae* | [0.006]*[DBH^3.038] | kg | 15 | 0.990 | | Estado de México | PF | Bonilla 2009 |
| CC [WI] | Tree | *Pinus patula* | [0.0485]*[DBH^2.3988] | kg | 25 | 0.9900 | | Tlaxcala | PF | Díaz 2005 |
| CC [WI] | Tree | *Pinus patula* | [0.021]*[DBH^2.6451] | kg | 25 | 0.9828 | | Tlaxcala | PF | Díaz et al. 2007 |
| CC [WI] | Tree | *Pinus pseudostrobus* | [3553.1]*[DBH^2.2245] | kg | 20 | 0.8730 | | Estado de México | PF | Palma 2011 |
| CC [WI] | Tree | *Psidium guajava* | [1.0096]*[DBH^1.2235] | kg | 18 | 0.8700 | | Aguascalientes | CF | Meraz et al. 2013 |
| CC [WI] | Tree | *Quercus laurina* | [0.0196]*[DBH^2.7353] | kg | 14 | 0.9617 | | Estado de México | OF | Tomas 2013 |
| CC [WI] | Tree | *Quercus rugosa* | [0.0192]*[DBH^2.7569] | kg | 12 | 0.9790 | | Estado de México | OF | Tomas 2013 |

*AGB* above-ground biomass, *BGB* below-ground biomass, *B* branches, *CC* carbon content, CF cultivated forest, *DS* deserts shrubland, *ETF* evergreen tropical forest, *FF* fir forest, *F* foliage, *LB* leaves + branches, *M* mangrove, *MS* mezquite shrubland, *OF* oak forest, *OPF* oak-pine forest, *PF* pine forest, *POF* pine-oak forest, *R* roots, *SETF* semi-evergreen tropical forest, *S* stem, *SR* support roots, *TT* Tamaulipan thornscrubland, *TDF* tropical deciduous forest, *TMCF* tropical montane cloud forest, *WI* whole individual, *XS* xerophytic shrubland, *BA* basal area, *TH* total height, *D0.30* diameter of the stem at 30 cm, *DBH* diameter at breast height (1.30 m), *WD* wood density, *D0.10* diameter of the stem at 10 cm, *D0.0* basal diameter of the stem, *BP* basal perimeter of the stem, *RC1, RC2* radii of two orthogonal diameters of the crown, *Vol* volume of the trunk with bark, *DC* average diameter of the tree canopy, *HC* height of the tree canopy

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