

Under the Oaks

Newsletter of the Arboretum at Memphis Botanic Garden

Volume 8



How Much Are Your Trees Worth? Try the new Tree Benefits Calculator!

By Jenny Sabatier

Did you know that now you can determine approximately how much your trees are worth to you? It's easy with the new tool that figures the approximate economic value of each tree you enter into the Tree Benefits Calculator. To see just how simple it is to use the Calculator, go to treebenefits.com.

The calculator will ask you to enter your zip code. Select your tree's name from a list, and the diameter of the trunk 4.5 feet from the ground. Then select the kind of landscape on which the tree is found. In seconds, you will have an amount that incorporates the general overall savings, as well as a pie chart giving the percentage of each type of asset the tree offers.

These assets include: storm water, property value, electricity, air quality, natural gas, and co2. In addition, the Tree Benefits Calculator will give an amount representing the probable value of the tree in a later year. To understand how each of the assets adds value, just click on its name.

Not only will this information give you a better understanding of the ways in which trees work for you, but will also help in selecting and planting the trees you acquire in the future.

The National Tree Benefit Calculator was conceived and developed by Casey Trees and Davey Tree Expert Co.

The Case of the Invading Earthworms

By Jenny Sabatier

The creatures we know as our garden helpers, who loosen our soil and enrich it, have become a growing ecological problem to a number of scientists who credit them with the destruction of plants that once graced the floor of our northern and northwestern hardwood forests. Among the offenders are our most recognizable earthworms, *Lumbricus terrestris*, the common nightcrawler, and *Eisenia fetida*, the red wiggler, sold for fish bait and composting. These, along with *Lumbricus rubellus*, are all non-native species, which did not exist in this country before 1492, and are thought probably to have first arrived here in the Jamestown settlement.

Charles Mann, in his new book, '1493', suggests that John Rolfe, husband of Pocahontas, and an important figure in the colony, may have unknowingly have provided the worms their passage from England to Jamestown. Rolfe had obtained special tobacco seeds from Trinidad and Venezuela, which he turned into a successful product coveted by the English. Ships from England came to load up the barrels of tobacco leaves, and in order to stabilize the vessels, dumped out the ballast, which consisted of stones, other heavy material, and English soil, which may have contained the nightcrawler and red wiggler. Immigrants arriving in their new country brought rooted plants from England, and many headed north or west unaware that they might be spreading European earthworms as they tended their new plots.

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The few native species that survived the Ice Age, were located in the south, where glaciers had not wiped them out. The non-native earthworms spread north and northwest where, if there had ever been earthworms there, they had been wiped out by the glaciers. Earthworms can reduce leaf litter on the forest floor in months, processing it into castings and burying it beneath the soil, where seedlings and shrubs, used to getting their nutrition from the thick litter, cannot find it. As the non-natives arrived in the hardwood forests of the north and northwest they began to consume the thick leaf litter, known as duff, which gradually thinned. Species of plants and tree seedlings which utilized the duff became sparser, and some began to disappear altogether leaving bare forest floor. Other living creatures that depended on the litter began to disappear because of the lack of cover. Tree roots were exposed to the sun. As a result, rain, instead of soaking into the ground, could more easily run off, taking precious soil with it. These problems have been noted by ecologists and universities across the county for some time, and now more studies are available on the subject. The watch is on.

Don't let this change your appreciation of what earthworms, native or not, can do for your gardens. Their agricultural importance is enormous. These small critters can be your best helpers, providing nutrients, fertilizers, and helping make your soil the consistency you dream about.

It's Not Cannabis, It's *Vitex agnus castus*

By Jenny Sabatier



Vitex agnus castus, although it does resemble a marijuana plant when young, belongs to the Verbenaceae family, and is a large shrub or small tree 12' to 25' in height. Its airy foliage belies its tough character, and its beautiful racemes of flowers in shades of violet, blue, pink or white attract butterflies, bees and hummingbirds. But its beauty and ability to survive neglect are not its only virtues. It is commonly known as the chaste tree for its reputation as a sexual suppressant, a reputation that goes back centuries. The vestal virgins of Rome used it at ancient festivals to reinforce vows of chastity, and European monks brewed tea from its fruit to help them remain virtuous. Over the years its leaves, fruit, seeds and bark have been used in regulating menstrual cycles and relieving PMS. It has also been used to increase fertility, and to prevent pregnancy, according to the dosage. As though that were not enough endowments, the chaste tree's small fruits have been used for seasoning in place of black pepper, and an extract of the seeds appears to be effective as a tick, flea and mosquito repellent.

Vitex agnus castus likes full sun, well drained soil, and acidic or neutral soil.