
Recent international debates over just what might constitute the "correct" taxonomic name for the tomato — is it Lycopersicon esculentum Mill. var. esculentum, Lycopersicum (L.) H. Karst., or Solanum lycopersicum L.? — exemplify the importance attached to standardized of scientific nomenclature as a means to accurately communicate about plants, whether it is for exchange of information, conservation, trade, or commerce. North American wild rice, long harvested as a food crop and now under domestication, is frequently misidentified as "Zizania aquatica L." (a distinct, nonedible species) instead of properly referred to as Z. palustris L. The meaning of common names, on the other hand, is generally restricted locally or regionally, and thus their use may also lead to confusion about the identity of a plant or plant product. World Economic Plants: A Standard Reference, by USDA plant taxonomists John H. Wiersema and Blanca León, addresses the need for a reference that links common names of economically important plants with up-to-date scientific names and infraspecific taxa (e.g., varieties, cultivars) that follow rules set by the International Code of Botanical Nomenclature (ICBN), which governs the application of nomenclature as a means to accurately communicate about plants.

The main body of the book contains two parts: a "Catalog of Economic Plants" of more than 500 pages and an "Index of Common Names" of more than 200 pages. The "Catalog" consists of a list of entries of about 9500 accepted scientific names of plant taxa, organized alphabetically by genus name. The list is comprised of species and infraspecific taxa (e.g., subspecies, varieties, or hybrids) representing about 290 plant families and more than 2500 genera. The entries include selected taxonomic synonyms, common names, and — in abbreviated format — economic uses and geographic information.

Economic value is summarized by a classification scheme that employs 17 classes (e.g., animal feed, human food, medicines, poisons, gene sources, fuels, materials, pesticides, weeds) and 96 subclasses (e.g., forage, ornamental, erosion control, sugar, food coloring, charcoal, disease resistance, progenitor, fiber, essential oil, wood, hallucinogen). Frequency distributions of taxa by categories are provided in a pair of tables, allowing calculation of relative distribution of taxa across economic uses or geographic areas. The "Index of Common Names" lists more than 19 200 common names — about 40% of which are of non-English derivation — cross-referenced with taxonomic names. Cultivar names are not included in the book, but in some instances parentage information for hybrids or cultivar group names are provided. The book contains 90 or so cited references, the majority of which consist of compendia (e.g., floras, manuals, handbooks, dictionaries) of economically valuable plants, treated generally on a global or regional basis. Some of the cited volumes are focused on particular types of use categories, while others are noted as the principal sources for the taxonomic or common names listed in the book. Taxon-specific literature references are absent from Wiersema and León's book, which may be frustrating to many readers but not surprising given space considerations. However, the authors note that their survey of the literature included more than 2200 articles, resulting in more than 71 500 taxon-specific literature records for the plant taxa treated in the book. Before publication, the veracity of information was reviewed by nearly 150 taxonomic or agricultural specialists, whose names, addresses, and taxonomic expertise are provided in a "List of Reviewers".

Molecular studies and cladistic analyses are two research approaches that in recent years have significantly influenced plant systematics and generated evidence that may dictate changes in scientific nomenclature. Yet Wiersema and León note that a tension exists between the desire to change classification systems to reflect current understanding of phylogeny and the desire to conserve and stabilize existing nomenclature, particularly with regard to economically important taxa. Arabidopsis Heynh., Glycine Willd., Hibiscus L., Ipomoea L., Tritium aestivum L., and, yes, even Lycopersicon esculentum are all examples of scientific names that have been formally conserved by the ICBN and, as such, are advocated by the authors of World Economic Plants.

World Economic Plants is a greatly expanded version of the USDA Agricultural Handbook 505, A Checklist of Names for 3,000 Vascular Plants of Economic Importance, the second edition of which was coauthored by Wiersema in 1986. A prominent feature of the CRC Press book that distinguishes it from earlier publications of a similar nature is that the book's content is available on the Internet. The data in World Economic Plants summarize information from the taxonomy section of the Germplasm Resources Information Network (GRIN), the genetic resource management database for the USDA's National Plant Germplasm System. The GRIN taxonomic data, including the content from the CRC Press book, is accessible on the Web at <www.ars-grin.gov/npgs/tax/>. For people with access to the Internet, the Web database...