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Improvement of World Wide Communication by Codification of Plant Growth Stages: BBCH-Code of the Rubber Tree *Hevea brasiliensis* (Willd. ex Adr. de Juss.) Muell.-Arg.

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Abstract

The detailed description of developmental stages of useful plants followed by adequate codification facilitates communication between scientist and practitioners if e.g. new findings of science have to be transferred to management procedures or if experiences made at one growing site have to be adapted to another. Native to the South American Amazon region the rubber tree was introduced to many other tropical regions of the world at the beginning of the 20th century, like China, Indonesia, Malaysia, Liberia, India, Ivory Coast, Sri Lanka, Sarawak, and Thailand. There are many improved varieties and cultivars in areas where the rubber tree is cultivated commercially. We describe the growth stages of the world wide grown rubber tree (*Hevea brasiliensis*) to prepare the basis for comparisons of epidemiological studies of disease, of growth patterns under different environmental factors and of genetic clone specific parameters. Each growth stage presented from seed germination to crown development and harvest is correlated with general management practices. This scale may be of great help to rubber growers and researchers around the world for more efficient planning of management practices and experiments. The codification follows the “Extended BBCH-Scale”, a numerical system which differentiates between principal and secondary growth stages. The extended BBCH-scale is a system for a uniform coding of phenologically similar growth stages of all mono- and dicotyledonous plant species. It results from teamwork between the German Federal Biological Research Centre for Agriculture and Forestry (BBA), the German Federal Office of Plant Varieties (BSA), the German Agrochemical Association (IVA) and the Institute for Vegetables and Ornamentals in Grossbeeren/Erfurt, Germany (IGZ). The abbreviation BBCH derives from Biologische Bundesanstalt, Bundessortenamt and Chemical industry. BBCH codes are recently well established for more than forty species and used in agricultural practice, agrometeorology, climate change observations or agricultural insurance.

Keywords: BBCH-scale, codification, growth stages, Hevea, phenology, rubber