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Buchbesprechung

Esaus Pflanzenanatomie
Meristeme, Zellen und Gewebe der Pflanzen – ihre Struktur, Funktion und Entwicklung

Ray F. Evert und Susan E. Eichhorn

Das in deutscher Übersetzung aus dem Englischen erschienene Buch richtet sich insbesondere an fortgeschrittene Studierende unterschiedlicher botanischer Disziplinen sowie an Wissenschaftler, die in Forschung und Lehre mit dem Bereich der Pflanzenanatomie und -morphologie näher befasst sind. Die Autoren vermitteln insgesamt einen umfassenden Überblick über den gegenwärtigen Wissensstand im Bereich der Anatomie von Pflanzen. Dabei werden Struktur, Funktion und Entwicklung des Pflanzenkörpers leicht verständlich beschrieben und analysiert. Anhand der zahlreichen Fotos und Zeichnungen (in schwarz-weiss) werden die behandelten Themen anschaulich dargestellt. Das Buch folgt dabei in seinen 17 Kapiteln einem logischen Aufbau und beschreibt die Zellen und Gewebe ausgehend vom Protoplasten, über die Zellwand, Meristeme und Leitgewebe bis zu den sekretorischen Strukturen und dem Periderm. Gegenüber den beiden vorausgegangenen Auflagen gehen die Autoren in dieser neuen Fassung vor allem auch auf Struktur-Funktions-Beziehungen einzelner Pflanzenarten näher ein.

Es werden neueste wissenschaftliche Erkenntnisse und Forschungsmethoden gebündelt und aus Sicht molekularer, interdisziplinärer und vergleichender Ansätze näher erläutert. Wie auch in den beiden vorangegangenen Auflagen ist ein Schwerpunkt den Angiospermen gewidmet; es werden aber auch einige Merkmale der vegetativen Teile von Gymnospermen sowie samenlosen Gefäßpflanzen besonders hervorgehoben.

Bei dem Buch handelt es sich um ein Standardwerk auf dem Gebiet der systematischen und ökologischen Pflanzenanatomie. Aufgrund der didaktisch gut aufbereiteten Texte sollten die vermittelten Inhalte auch für weniger fortgeschrittene Studierende gut verständlich sein. Zu jedem Kapitel werden umfangreiche Literaturhinweise geliefert, die es dem Leser prinzipiell gestatten, innerhalb kurzer Zeit einen detaillierten Einblick in die behandelten Spezialthemen zu erhalten. Darüber hinaus finden sich am Ende des Buches zahlreiche Hinweise auf weiterführende Literatur, die im vorangegangenen Text nicht zitiert wurden. In einem Glossar sind schließlich alle wichtigen Fachbegriffe noch einmal kurz erläutert, so dass auch für den weniger geschulten Leser das spezielle Vokabular der Pflanzenanatomie im Bedarfsfall schnell nachgeschlagen werden kann.

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Ray F. Evert und Susan E. Eichhorn, Esaus Pflanzenanatomie. Meristeme, Zellen und Gewebe der Pflanzen – ihre Struktur, Funktion und Entwicklung, de Gruyter Verlag, Berlin, 2009. 3. aktualisierte Auflage, deutsche Übersetzung von Rosemarie Langenfeld-Heyser (Hrsg.), Sabine Blechschmidt-Schneider, Urs Fischer, Andrea Olbrich und Uwe Schmitt, 507 Seiten, gebunden, Preis: 129,- €, ISBN: 978-3110205923

Orbituary – Prof. Dr. Dr. Hans Bergmann
(*6.6.1940, †6.8.2009)

In August 2009, an honoured colleague, long-time vice president of the VAB, deceased. Prof. Bergmann was retired from the Friedrich Schiller University Jena. He became 69 years of age.

Hans Bergmann received his education in Jena with a Diploma in agriculture in 1966 followed by research with Prof. G. Schilling at the Institute for Agricultural Chemistry, Soil Science and Plant Nutrition at Jena. In 1969, he was removed by the GDR authorities from the university because of his continued support of the Lutheran church. Nevertheless, Prof. Schilling made it possible for Hans Bergmann to obtain a PhD in agrochemistry entitled "Uptake, metabolization and mode of action of chlorcholinchloride in plants" in 1970. From 1970 to 1972, he was working with an LPG, an agricultural production unit or farm, and from 1972 through 1979, he was working with Prof. Schwartz at the Academy for Agricultural Sciences in Jena as a scientific coworker in soil and plant chemistry. During that time, in 1980, he achieved a second PhD at the Friedrich Schiller University in Plant Nutrition entitled "Basics of stress tolerance induction in plants" in 1980. After re-unification of Germany, he moved to Göttingen as scientist at the Research Unit for sugar beets. At the same time, he was guest professor at Witzenhausen in Botany and had temporary professorships at the University of Kassel and the Georg-August-University in Göttingen in 1990. In 1991, he came back to Jena where he was fully rehabilitated politically and achieved his habilitation. He was awarded a professorship in 1993 for Plant Nutrition at the Institute for Nutritional Sciences at the Friedrich Schiller University Jena in the Faculty of Biology and Pharmacy, where he served at the Faculty gremia for long years. His main research topics were stress physiology of plants, with a focus on drought resistance, phytohormones and agents for the activation of resistance, soil chemical stress conditions, food quality and phytoremediation linked to heavy metal response. He was involved in education of students of nutritional sciences and biology, and due to his long-standing scientific interest in interactions between soil, plant and environment, he was strongly involved in the founding of a new research and teaching subject, the Biogeosciences.

Hans Bergmann was a curious person, always eager to learn new things and to discuss new findings. When I came to Jena, he approached me to see, whether it would not be possible to start a new minor within the Diploma study course of Biology on Phytopathology/Applied Botany, which together we did. He also got me interested in investigating possibilities for Bio-Geo-Interactions. This proved to be a very fruitful collaboration, in which Hans Bergmann, Georg Büchel for Geosciences and myself have had lots of fun discussing possibilities of plants, as well as microbes, interacting with the geogenic environment, thereby shaping their surroundings, controlling release and immobilization of heavy metals, and allowing development of improved phytoremediation strategies. This resulted in multiple collaborative research projects funded by the Federal Ministry for Science and Education, BMBF. It also led to the acquisition of a Research Training Group program funded by the German Science Foundation, in which, however, Hans was not officially involved any more because of his retirement in 2005. However, he stayed an active member, coming to the group meetings and sharing his thoughts and multiple points of discussion with us. He also kept on teaching, for example in our yearly field course for students in Biogeosciences, where we used the harvest at our test field site within the former uranium mining region in Eastern Thuringia for teaching different approaches in hydrogeology, microbiology and plant nutrition to address the phytoremediation options.

The Association for Applied Botany, VAB, was dear to his heart, and he served as vize-president for many years after coming back to Jena. He also was active member of the German Society for Quality Research on Plant Foods (DGQ) and actively shaping the new profile of the Journal for Applied Botany and Food Quality, the publication organ of our two societies. It was his wish to initiate closer collaboration between researchers in applied botany and food quality, including especially also members from the "New States" in Germany. With his bemourned, untimely death, the society lost a member with a keen interest in all aspects of plant science, paired with a friendly heart, specifically for young scientists, whom he always tried to help when they asked for advise.

Hans was always a vivid member of our research group, lively with so many ideas that we all can profit from for much years to come. That he became ill by an autoimmune disease slowed him some, but still he was a major support and always good for new ideas and inventive science. We will miss him, both for his friendly, always positive nature and his bright, inventive mind!

Erika Kothe, Jena, January 2010