Plant Biomechanics: An Engineering Approach to Plant Form and Function

Karl J. Niklas

Plant Biomechanics: An Engineering Approach to Plant Form and Function

Karl J. Niklas

Plant Biomechanics: An Engineering Approach to Plant Form and Function Karl J. Niklas
In this first comprehensive treatment of plant biomechanics, Karl J. Niklas analyzes plant form and provides a far deeper understanding of how form is a response to basic physical laws. He examines the ways in which these laws constrain the organic expression of form, size, and growth in a variety of plant structures, and in plants as whole organisms, and he draws on the fossil record as well as on studies of extant species to present a genuinely evolutionary view of the response of plants to abiotic as well as biotic constraints. Well aware that some readers will need an introduction to basic biomechanics or to basic botany, Niklas provides both, as well as an extensive glossary, and he has included a number of original drawings and photographs to illustrate major structures and concepts.

This volume emphasizes not only methods of biomechanical analysis but also the ways in which it allows one to ask, and answer, a host of interesting questions. As Niklas points out in the first chapter, "From the archaic algae to the most derived multicellular terrestrial plants, from the spectral properties of light-harvesting pigments in chloroplasts to the stacking of leaves in the canopies of trees, the behavior of plants is in large part responsive to and intimately connected with the physical environment. In addition, plants tend to be exquisitely preserved in the fossil record, thereby giving us access to the past." Its biomechanical analyses of various types of plant cells, organs, and whole organisms, and its use of the earliest fossil records of plant life as well as sophisticated current studies of extant species, make this volume a unique and highly integrative contribution to studies of plant form, evolution, ecology, and systematics.

Download and Read Free Online Plant Biomechanics: An Engineering Approach to Plant Form and Function Karl J. Niklas

---

From reader reviews:

Duncan Houghton:

This book untitled Plant Biomechanics: An Engineering Approach to Plant Form and Function to be one of several books this best seller in this year, here is because when you read this publication you can get a lot of benefit into it. You will easily to buy this specific book in the book retailer or you can order it by using online. The publisher with this book sells the e-book too. It makes you more readily to read this book, since you can read this book in your Smart phone. So there is no reason to you personally to past this book from your list.

Terry Klatt:

Reading a guide tends to be new life style with this era globalization. With examining you can get a lot of information that will give you benefit in your life. Along with book everyone in this world could share their idea. Ebooks can also inspire a lot of people. Many author can inspire their reader with their story or maybe their experience. Not only the storyplot that share in the textbooks. But also they write about the knowledge about something that you need illustration. How to get the good score toefl, or how to teach children, there are many kinds of book that you can get now. The authors on earth always try to improve their ability in writing, they also doing some exploration before they write for their book. One of them is this Plant Biomechanics: An Engineering Approach to Plant Form and Function.

Nicholas Thiede:

That guide can make you to feel relax. This particular book Plant Biomechanics: An Engineering Approach to Plant Form and Function was colourful and of course has pictures on the website. As we know that book Plant Biomechanics: An Engineering Approach to Plant Form and Function has many kinds or variety. Start from kids until adolescents. For example Naruto or Private eye Conan you can read and think you are the character on there. Therefore not at all of book usually are make you bored, any it offers up you feel happy, fun and loosen up. Try to choose the best book for yourself and try to like reading in which.

Arthur Fabry:

What is your hobby? Have you heard in which question when you got college students? We believe that that question was given by teacher to their students. Many kinds of hobby, All people has different hobby. And you know that little person such as reading or as reading become their hobby. You need to understand that reading is very important and also book as to be the point. Book is important thing to include you knowledge, except your teacher or lecturer. You get good news or update concerning something by book. A substantial number of sorts of books that can you choose to adopt be your object. One of them is niagra Plant Biomechanics: An Engineering Approach to Plant Form and Function.

Read Plant Biomechanics: An Engineering Approach to Plant Form and Function by Karl J. Niklas for online ebook

Plant Biomechanics: An Engineering Approach to Plant Form and Function by Karl J. Niklas Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Plant Biomechanics: An Engineering Approach to Plant Form and Function by Karl J. Niklas books to read online.

Online Plant Biomechanics: An Engineering Approach to Plant Form and Function by Karl J. Niklas ebook PDF download

Plant Biomechanics: An Engineering Approach to Plant Form and Function by Karl J. Niklas Doc

Plant Biomechanics: An Engineering Approach to Plant Form and Function by Karl J. Niklas Mobipocket

Plant Biomechanics: An Engineering Approach to Plant Form and Function by Karl J. Niklas EPub