

# Preface

*Jatropha, Challenges for a New Energy Crop—Volume 1* aims to report on the state of the art of scientific investigations that were made during the past 10 years on the new crop *Jatropha curcas*. The progresses obtained on the knowledge of this abstermious, semi-wild species are already impressive and were mainly achieved in just a decade (2001–2011). This knowledge extends from basic *Jatropha* physiology and biological reproduction to the basic agronomic practices and systems for its productive management, but also the complete set of biotechnological tools, such as in vitro culture, genetic transformation, genomic sequence, genetic map, and markers assisted selection that is necessary for *Jatropha*'s selective breeding. These scientific and technological achievements pave the way for future technological management and domestication of *Jatropha* as an industrial oilseed crop able to contribute to the feeding of the transport system.

This first volume of a two-book series that forms the first comprehensive compilation by global experts appeared necessary to us in view of the importance that *Jatropha* demonstrated worldwide by its large-scale cultivation and emerging value for energy business as a biofuel. This reality contrasts with the difficult access to objective information scattered among science media eventually written in different languages. We thought it was necessary to gather the information scattered worldwide in a sort of summary or general agreement of what is known on *Jatropha* at the moment. The form of a compilation was also necessary because the knowledge on *Jatropha* is shared over the tropical belt by different teams, in different politico-economic realities, and with different technological and scientific backgrounds. A compilation was the best way to faithfully transmit the point of view of these experts with as few biases as possible. We believe and hope that this compilation will be a valuable source of inspiration for next-generation scientists investigating this new crop, for technologists invested in improving its profitability, as well as for decision makers and policy implementers involved in politics, economics, environment, or social management that are thinking and acting for the development of a world based on sustainability.

The book is presented in five units comprising 30 chapters covering the main aspects of the worldwide economic importance of *Jatropha* as well as its physiology, farming, oil processing, by-products, biodiesel, and biofuel combustion. It aims to give a kind of comprehensive picture on the whole *productive chain* of

Jatropha and is supposed to help the reader to make a mental representation concerning the potential of Jatropha as a crop. By contrast, volume two is dedicated to Jatropha as a *biological system* with the purpose of understanding what can be improved in Jatropha and how this can be achieved.

We wish to express our gratitude to all the contributors from all over the world for readily accepting our invitations for not only sharing their knowledge but for admirably integrating their expertise on scattered information from diverse fields in composing the chapters and enduring editorial suggestions to finally produce this venture that we hope to be a success. We greatly appreciate their commitment.

We also acknowledge the support received from many colleagues in the preparation of the manuscripts as well as to our family members and relatives for bearing with us, our commitment to the book.

We thank Ms Hannah Smith, Associate Editor at Springer Science Publishers, and her team for their help and excellent cooperation for bringing out the book in an excellent and readable getup.

Finally, we apologize for any mistakes, omissions, or failures that may subsist in this work.

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