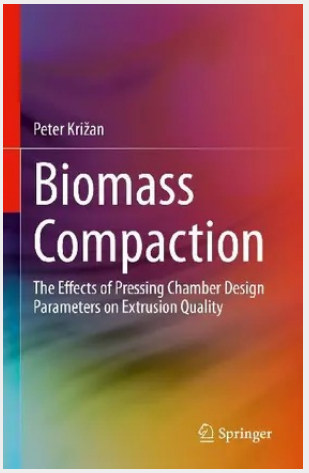
Križan

Biomass Compaction

The Effects of Pressing Chamber Design Parameters on Extrusion Quality



This book discusses the scientific process of biomass compaction, focusing on pressing chamber parameters and their influence on the quality of extrusions from biomass. It yields new knowledge in the field of wood biomass pressing technology and contains a thorough and detailed theoretical analysis of the pressing chamber of pressing machines and the influence they have on the resulting quality of extrusions. Coverage includes the proposal and evaluation of experimental research dealing with the definition of different pressing chamber parameters in pressing machines and their effects on the quality of extrusions; definition and specification of the dependencies of chamber parameters based on the resulting quality of extrusion, given by the mechanical indicators of quality, are also explored. Furthermore, the work describes the design and manufacture of an experimental pressing stand, which allows for experiments to be performed determining the effects that some technological, material, and construction parameters have on the resulting quality of extrusions. The desired pressing method, length, and conicity of the pressing chamber are experimentally determined through the uniaxial compaction of wood biomass where results and dependencies are expressed graphically.
Biomass Compaction: The Effects of Pressing Chamber Design Parameters on Extrusion Quality will be a welcomed resource for researchers and engineers working for producers of solid biofuels from biomass, densification (briquetting, pelleting), or compacting machines producers, as well as technology plant operators and those working in the biomass treatment area.

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