conditions, the highest attained lignin removal was larger than 80%. Even if the temperature positively influences lignin removal, it negatively affects the solid fraction yield, mainly containing the remaining cellulose and hemicellulose fractions, eventually leading to the fermentable sugars usable for subsequent bioprocesses. Decreasing the hydrolysis temperature to 60°C led to 71% delignification and 70% solid yield, which are not far from those predicted as optimal by the models considered in this work. Confocal laser scanning microscopy confirmed the delignification of the samples by a significant decrease in the characteristic autofluorescence of lignin. Scanning electron microscopy analysis of the samples indicated better exposition of the cellulose fiber structure. The polymer structure was mainly conserved, suggesting that the hydrolysis to develop reducing sugars may require tough conditions.

Data Availability Statement: All data have been exposed in the article or are available upon request.

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