Sugarcane Bagasse

Pedigree

Institution: Alama Sugar Plantation
Location: Pointe Coupee County, LA
Crop Year: 2014
Sample Preparation: Processed Bagasse
Received at INL: 2015

Proximate, Ultimate & Calorimetry

Table 2. Proximate, ultimate, and calorific values for Reference Sugarcane Bagasse (reported on a dry basis)

<table>
<thead>
<tr>
<th>Proximate&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Ultimate&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Calorimetry&lt;sup&gt;c&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>%Volatile</td>
<td>%Ash</td>
<td>%Fixed Carbon</td>
</tr>
<tr>
<td>76.02</td>
<td>10.56</td>
<td>13.41</td>
</tr>
</tbody>
</table>

<sup>a</sup>Proximate analysis was done according to ASTM D 5142-09

<sup>b</sup>Ultimate analysis was conducted using a modified ASTM D5373-10 method (Flour and Plant Tissue Method) that uses a slightly different burn profile. Elemental sulfur content was determined using ASTM D4239-10, and oxygen content was determined by difference.

<sup>c</sup>Heating values (HH, LHV) were determined with a calorimeter using ASTM D5865-10

Elemental Ash

Table 3. Elemental ash composition<sup>d</sup> of Reference Sugarcane Bagasse

<table>
<thead>
<tr>
<th>%Al as Al₂O₃</th>
<th>%Ca as CaO</th>
<th>%Fe as Fe₂O₃</th>
<th>%K as K₂O</th>
<th>%Mg as MgO</th>
<th>%Mn as MnO</th>
<th>%Na as Na₂O</th>
<th>%P as P₂O₅</th>
<th>%Si as SiO₂</th>
<th>%Ti as TiO₂</th>
<th>%S as SO₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.20</td>
<td>2.74</td>
<td>2.40</td>
<td>4.46</td>
<td>1.30</td>
<td>0.06</td>
<td>1.30</td>
<td>0.95</td>
<td>79.19</td>
<td>0.40</td>
<td>0.57</td>
</tr>
</tbody>
</table>

<sup>d</sup>Determined as described in ASTM standards D3174, D3682 and D6349

Contact

For questions regarding biomass material or analytical data please contact Amber Hoover at amber.hoover@inl.gov or 208-526-5992.

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