Effects of Post Anaerobic Digestion Thermal Hydrolysis on Dewaterability and Moisture Distribution in Digestates

Oda K. Svennevik\textsuperscript{a,b}, Odd Egil Solheim\textsuperscript{b}, Greeley Beck\textsuperscript{c,d}, Geir H. Sørland\textsuperscript{e}, Kjell R. Jonassen\textsuperscript{a,f}, Ester Rus\textsuperscript{g}, Bjørge Westereng\textsuperscript{a}, Svein J. Horn\textsuperscript{a*}, Matthew J. Higgins\textsuperscript{h}, Pål J. Nilsen\textsuperscript{b}

\textsuperscript{a} Faculty of Chemistry, Biotechnology and Food Sciences, Norwegian University of Life Sciences, Ås, Norway
\textsuperscript{b} Cambi Group AS, Asker, Norway
\textsuperscript{c} Department of Ecology and Natural Resource Management, Norwegian University of Life Sciences, Ås, Norway
\textsuperscript{d} NIBIO, Norwegian Institute of Bioeconomy Research, Ås, Norway
\textsuperscript{e} Ugelstad Laboratory, Department of Chemical Engineering, The Norwegian University of Science and Technology (NTNU), Trondheim, Norway
\textsuperscript{f} Vestfjorden Avløpsselskap, Slemmestad, Norway
\textsuperscript{g} Thames Water, Wastewater Innovation, Reading, UK
\textsuperscript{h} Department of Civil and Environmental Engineering, Bucknell University, Lewisburg, PA, USA

\textsuperscript{*Corresponding author; svein.horn@nmbu.no

Supplementary Material
Supplementary Table

Table S1 Moisture distribution in digestates and Post-AD THP digestate from Plants A-E (Pre-AD THP) and Plants F-H (None-THP)

<table>
<thead>
<tr>
<th>Plant ID</th>
<th>Free water (%)</th>
<th>Interstitial water (%)</th>
<th>Bound water (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Digestate Post-AD THP</td>
<td>Digestate post-AD THP</td>
<td>Digestate post-AD THP</td>
</tr>
<tr>
<td>A</td>
<td>89.7 95.9</td>
<td>9.8 3.8</td>
<td>0.5 0.3</td>
</tr>
<tr>
<td>B</td>
<td>89.8 96.8</td>
<td>10.0 2.7</td>
<td>0.2 0.5</td>
</tr>
<tr>
<td>C</td>
<td>93.1 97.8</td>
<td>6.8 0.1</td>
<td>0.02 2.1</td>
</tr>
<tr>
<td>D</td>
<td>92.0 97.3</td>
<td>6.3 0.5</td>
<td>1.7 2.2</td>
</tr>
<tr>
<td>E</td>
<td>89.2 97.5</td>
<td>9.2 1.2</td>
<td>1.6 1.3</td>
</tr>
<tr>
<td>F</td>
<td>89.5 96.8</td>
<td>9.9 1.6</td>
<td>0.7 1.6</td>
</tr>
<tr>
<td>G</td>
<td>88.7 97.2</td>
<td>11.1 2.5</td>
<td>0.2 0.2</td>
</tr>
<tr>
<td>H</td>
<td>84.5 94.4</td>
<td>12.0 4.5</td>
<td>3.4 1.1</td>
</tr>
<tr>
<td>Average all plants</td>
<td>89.6 ± 2.5 96.7 ± 1.1</td>
<td>9.4 ± 2.0 2.1 ± 1.5</td>
<td>1.0 ± 1.2 1.2 ± 0.8</td>
</tr>
</tbody>
</table>

*% of total water
Supplementary Figures

Figure S1: Drying curve of Post-AD THP digestate from Plant A

Figure S2: Drying curve of Post-AD THP digestate from Plant B

Figure S3: Drying curve of Post-AD THP digestate from Plant C
Figure S4: Drying curve of Post-AD THP digestate from Plant D

Figure S5: Drying curve of Post-AD THP digestate from Plant E

Figure S6: Drying curve of Post-AD THP digestate from Plant F
Figure S7: Drying curve of Post-AD THP digestate from Plant G

Figure S8: Drying curve of Post-AD THP digestate from Plant H

Figure S9: Drying curve of Post-AD THP digestate from Plant I
Figure S10: Drying curve of Post-AD THP digestate from Plant J

Figure S11: Drying curve of Post-AD THP digestate from Plant K

Figure S12: Drying curve of Post-AD THP digestate from Plant L
Figure S13. Drying curve of Post-AD THP digestate from Plant M

Figure S14: Drying curve of Post-AD THP digestate from Plant N

Figure S15: Drying curve of Post-AD THP digestate from Plant O
Figure S16: Drying curve of Post-AD THP digestate from Plant P

Figure S17: Drying curve of Post-AD THP digestate from Plant Q

Figure S18: Drying curve of Post-AD THP digestate from Plant R
Figure S19: Drying curve of Post-AD THP digestate from Plant S

Figure S20: Drying curve of Post-AD THP digestate from Plant T

Figure S21: Drying curve of Post-AD THP digestate from Plant U
Figure S22: Drying curve of Post-AD THP digestate from Plant V

Figure S23: Drying curve of Post-AD THP digestate from Plant W

Figure S24: Drying curve of Post-AD THP digestate from Plant X
Figure S25: Drying curve of Post-AD THP digestate from Plant Y

Figure S26: Drying curve of Post-AD THP digestate from Plant Z

Figure S27: Drying curve of Post-AD THP digestate from Plant AA
Figure S28: Drying curve of Post-AD THP digestate from Plant AB

Figure S29: Drying curve of Post-AD THP digestate from Plant AC

Figure S30: Drying curve of Post-AD THP digestate from Plant AD
Figure S31: Drying curve of Post-AD THP digestate from Plant AE

Figure S32: Drying curve of Post-AD THP digestate from Plant AF

Figure S33: Relationship between dewatered cake solids (% DS) and volatile solids (% of DS) of original digestates