Canadian Biomass Energy Research Ltd.
T +1 (250) 814 7184
F +1 (250) 837 7046
info@biomassenergyresearch.ca
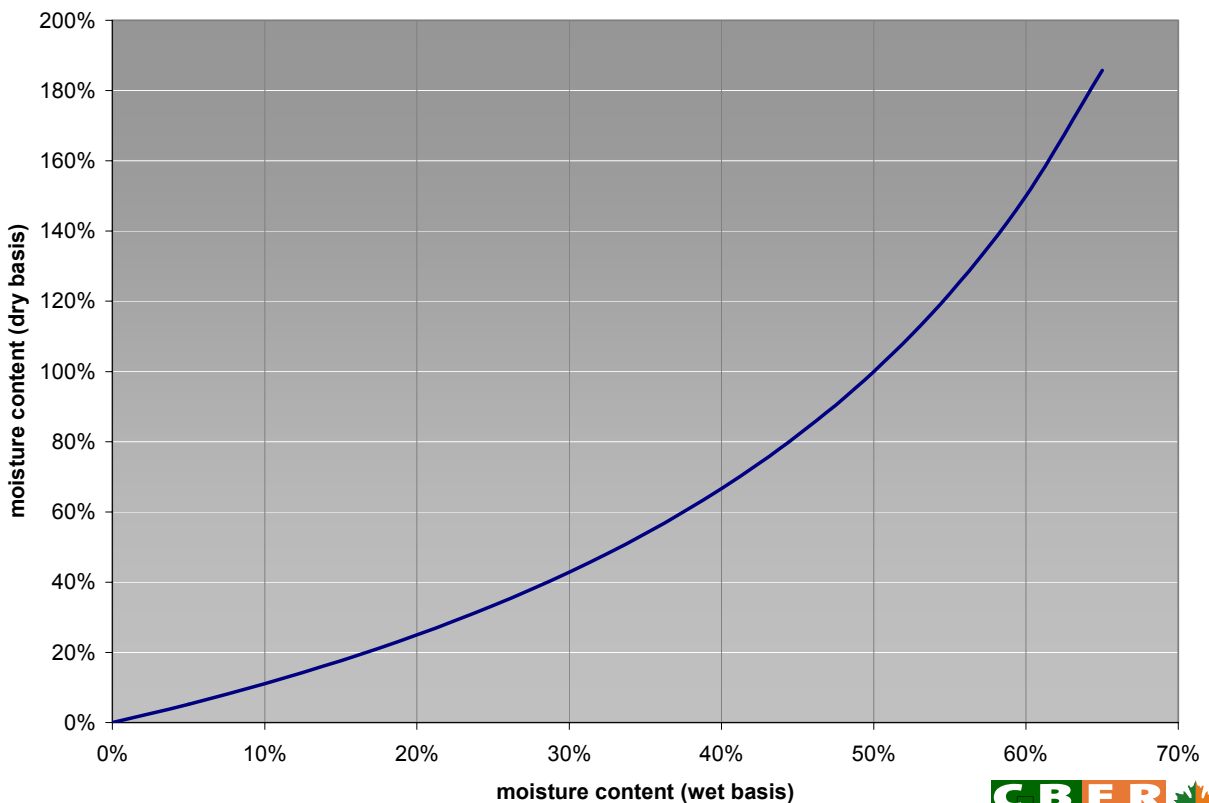www.biomassenergyresearch.ca

page 1 of 1

Technical Information    **Definition of Moisture Content of Wood Fuels**

There are two different ways of specifying the moisture content of wood; on a 'wet' or 'dry' basis. The moisture content of a single piece of wood will be different using the two methods. The wet basis moisture content of a piece of wood is given by the mass of water contained in the wood divided by the total mass of the piece of wood as found. The dry basis moisture content is the mass of water divided by the mass of the wood only, i.e. excluding the water.

Example: A sample of wood chips has a mass of 10kg. It is dried to an oven-dried condition, and then it has a mass of 8kg. The mass of 'wet' wood (10kg) minus the mass of oven-dried wood (8kg) = mass of water (2kg).

2kg water / 10kg wet wood x 100 = 20% moisture content (wet basis)

2 kg water / 8 kg bonedry wood x 100 = 25% moisture content (dry basis).



$$m.c._{dry\ basis} = m_{water}/m_{wood}$$

$$m.c._{wet\ basis} = m_{water}/(m_{wood} + m_{water})$$

$$m.c._{wet\ basis} = m.c._{dry\ basis}/(1 + m.c._{dry\ basis})$$

$$m.c._{dry\ basis} = m.c._{wet\ basis}/(1 - m.c._{wet\ basis})$$

$$m_{total} = m_{wood} + m_{water}$$

$$m_{wood} = m_{total}/(1+m.c._{dry})$$

$$m_{wood} = m_{total} *(1-mc_{wet})$$

$$m_{total} = m_{wood}/(1-m.c._{wet})$$

| wet basis | 0% | 5% | 10% | 15% | 20% | 25% | 30% | 35% | 40% | 45% | 50% | 55% | 60% | 65% | 70% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| dry basis | 0% | 5% | 11% | 18% | 25% | 33% | 43% | 54% | 67% | 82% | 100% | 122% | 150% | 186% | 233% |