

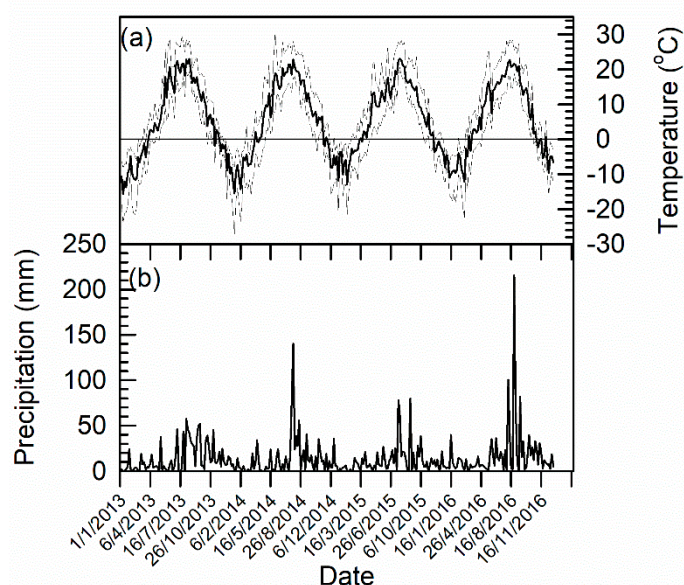
## Supplementary

Article title: High biomass productivity of short-rotation willow plantation in boreal Hokkaido achieved by mulching and cutback

Authors: Qingmin HAN, a, Hisanori HARAYAMA, Akira UEMURA, Eriko ITO, Hajime UTSUGI, Mitsutoshi KITAO and Yutaka MARUYAMA

Article acceptance date: [Click here to enter a date.](#)

The following Supplementary Figures and equations are available for this article:



**Figure S1.** (a) Mean diurnal mean (thick line), mean diurnal maximum (thin line) and mean diurnal minimum temperature (thin line) in each five day period, and (b) cumulative precipitation in each five day period during the period 2013-2016 (the first harvest cycle).

### Allometric Equations

Allometric equations were estimated for stem biomass ( $M_S$ , in g) in terms of basal diameter at 0.03 m ( $D_0$ , in m) and total height ( $H$ , in m) of each stem (Eq. 1); for branch biomass ( $M_B$ , in g) in terms of diameter at the height of the lowest branch ( $D$ , in mm) of each stem (Eq. 2); and for foliage biomass ( $M_F$ , in g) in terms of  $D$  (Eq. 3).

$$M_S = 89217 * (D_0^2 H) + 4.838 \quad (n = 12, r^2 = 0.991, P < 0.001) \quad (1)$$

$$M_B = 6.288 * (D) - 57.625 \quad (n = 12, r^2 = 0.728, P < 0.001) \quad (2)$$

$$M_F = 7.709 * (D) - 51.335 \quad (n = 12, r^2 = 0.884, P < 0.001) \quad (3)$$

Thus, the dry biomass production ( $M_Y$ ) was the sum of  $M_B$  and  $M_S$ :

$$M_Y = M_B + M_S \quad (4)$$



© 2020 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).