Appendix

Table A.1. Characteristics of the initial model (1) after its anti-log transforming

Biomass components	The initial model characteristics											*adjR²**	*RMSE**
P_a	0.1832	$D^{1.4212}$	$H^{0.3134}$	$D^{0.1841(\ln H)}$	$e^{-0.1885\,X1}$	$e^{-0.0747\,X2}$	$e^{-0.1639\,X3}$	$e^{0.1857\,X4}$	$e^{-0.0631\,X5}$	$e^{-0.0947\,X6}$	$e^{-0.1221\,X7}$	0.991	1.19
Step 1													
P_c	0.5341	$D^{2.2312}$	$H^{-1.7550}$	$D^{0.2494(\ln H)}$	$e^{-0.1750\,X1}$	$e^{-0.3032\,X2}$	$e^{-0.5668\,X3}$	$e^{-0.3290\,X4}$	$e^{-0.2613\,X5}$	$e^{-0.3483\,X6}$	$e^{-0.1243\,X7}$	0.904	1.65
P_s	0.0804	$D^{1.3238}$	$H^{0.6898}$	$D^{0.1700(\ln H)}$	$e^{-0.2019\,X1}$	$e^{-0.0271\,X2}$	$e^{-0.0833\,X3}$	$e^{0.2779\,X4}$	$e^{-0.0286\,X5}$	$e^{-0.0654\,X6}$	$e^{-0.1733\,X7}$	0.992	1.18
Step 2*a*													
P_f	0.1032	$D^{2.0986}$	$H^{-1.5553}$	$D^{0.1874(\ln H)}$	$e^{0.3966\,X1}$	$e^{0.1968\,X2}$	$e^{-0.1623\,X3}$	$e^{0.0686\,X4}$	$e^{-0.0193\,X5}$	$e^{0.0847\,X6}$	$e^{0.3110\,X7}$	0.855	1.74
P_b	0.3662	$D^{2.3314}$	$H^{-1.7586}$	$D^{0.2438(\ln H)}$	$e^{-0.3327\,X1}$	$e^{-0.4231\,X2}$	$e^{-0.6662\,X3}$	$e^{-0.3923\,X4}$	$e^{-0.3125\,X5}$	$e^{-0.4403\,X6}$	$e^{-0.2260\,X7}$	0.908	1.66
Step 2*b*													
P_w	0.0487	$D^{1.3125}$	$H^{0.7886}$	$D^{0.1730(\ln H)}$	$e^{-0.1860\,X1}$	$e^{0.0454\,X2}$	$e^{-0.0218\,X3}$	$e^{0.3077\,X4}$	$e^{0.0332\,X5}$	$e^{-0.0282\,X6}$	$e^{0.0050\,X7}$	0.993	1.19
P_{bk}	0.0304	$D^{1.3274}$	$H^{0.1312}$	$D^{0.2344(\ln H)}$	$e^{-0.2909\,X1}$	$e^{0.1207\,X2}$	$e^{0.1761\,X3}$	$e^{0.6553\,X4}$	$e^{-0.2840\,X5}$	$e^{0.2626\,X6}$	$e^{0.2783\,X7}$	0.978	1.29

*Note. *adjR² – coefficient of determination adjusted for the number of parameters; RMSE – equation standard error.*

Table A.2. The structure of the three-step AM. sold under proportional weighting. Symbols here and further as per equation (1)

Step 1	$P_c = \frac{1}{1+\frac{a_s D^{b_s} H^{c_s} D^{d_s(\ln H)} e^{\Sigma g_{sj} X_j}}{a_c D^{b_c} H^{c_c} D^{d_c(\ln H)} e^{\Sigma g_{cj} X_j}}} \times P_a$
	$P_s = \frac{1}{1+\frac{a_c D^{b_c} H^{c_c} D^{d_c(\ln H)} e^{\Sigma g_{cj} X_j}}{a_s D^{b_s} H^{c_s} D^{d_s(\ln H)} e^{\Sigma g_{sj} X_j}}} \times P_a$
Step 2*a*	$P_f = \frac{1}{1+\frac{a_b D^{b_b} H^{c_b} D^{d_b(\ln H)} e^{\Sigma g_{bj} X_j}}{a_f D^{b_f} H^{c_f} D^{d_f(\ln H)} e^{\Sigma g_{fj} X_j}}} \times P_c$
	$P_b = \frac{1}{1+\frac{a_f D^{b_f} H^{c_f} D^{d_f(\ln H)} e^{\Sigma g_{fj} X_j}}{a_b D^{b_b} H^{c_b} D^{d_b(\ln H)} e^{\Sigma g_{bj} X_j}}} \times P_c$
Step 2*b*	$P_w = \frac{1}{1+\frac{a_{bk} D^{b_{bk}} H^{c_{bk}} D^{d_{bk}(\ln H)} e^{\Sigma g_{bkj} X_j}}{a_w D^{b_w} H^{c_w} D^{d_w(\ln H)} e^{\Sigma g_{wj} X_j}}} \times P_s$
	$P_{bk} = \frac{1}{1+\frac{a_w D^{b_w} H^{c_w} D^{d_w(\ln H)} e^{\Sigma g_{wj} X_j}}{a_{bk} D^{b_{bk}} H^{c_{bk}} D^{d_{bk}(\ln H)} e^{\Sigma g_{bk} X_j}}} \times P_s$

Table A.3. Final two-step AM of larch tree biomass

$Pa = 0.1832 D^{1.4212} H^{0.3134} D^{0.1841(\ln H)} e^{-0.1885 X1} e^{-0.0747 X2} e^{-0.1639 X3} e^{0.1857 X4} e^{-0.0631 X5} e^{-0.0947 X} 6e^{-0.1221 X7}$	
Step 1	$Pc = \frac{1}{1+0.1505 D^{-0.9074} H^{2.4448} D^{-0.0794(\ln H)} e^{-0.0269 X1} e^{0.2760 X2} e^{0.4836 X3} e^{0.6069 X4} e^{0.2327 X5} e^{0.2829 X6} e^{-0.0489 X7}} \times Pa$
	$Ps = \frac{1}{1+6.6460 D^{0.9074} H^{-2.4448} D^{0.0794(\ln H)} e^{0.0269 X1} e^{-0.2760 X2} e^{-0.4836 X3} e^{-0.6069 X4} e^{-0.2327 X5} e^{-0.2829 X6} e^{0.0489 X7}} \times Pa$
Step 2*a*	$Pf = \frac{1}{1+3.5479 D^{0.2328} H^{-0.2033} D^{0.0565(\ln H)} e^{-0.7293 X1} e^{-0.6199 X2} e^{-0.5040 X3} e^{-0.4609 X4} e^{-0.2932 X5} e^{0.5250 X6} e^{-0.5370 X7}} \times Pc$
	$Pb = \frac{1}{1+0.2819 D^{-0.2328} H^{0.2033} D^{-0.0565(\ln H)} e^{0.7293 X1} e^{0.6199 X2} e^{0.5040 X3} e^{0.4609 X4} e^{0.2932 X5} e^{0.5250 X6} e^{0.5370 X7}} \times Pc$
Step 2*b*	$Pw = \frac{1}{1+0.6248 D^{0.0150} H^{-0.6574} D^{0.0614(\ln H)} e^{-0.1049 X1} e^{0.0753 X2} e^{0.1978 X3} e^{0.3476 X4} e^{-0.3172 X5} e^{0.2908 X6} e^{0.2733 X7}} \times Ps$
	$Pbk = \frac{1}{1+1.6005 D^{-0.0150} H^{0.6574} D^{-0.0614(\ln H)} e^{0.1049 X1} e^{-0.0753 X2} e^{-0.1978 X3} e^{-0.3476 X4} e^{0.3172 X5} e^{-0.2908 X6} e^{-0.2733 X7}} \times Ps$