

Table S1. Tukey's test of bulk densities all machine passes of the U.S.-universal skidder Zetor 7245, F.S.1-forest skidder LKT 81 ITL, and F.S.2-forest skidder HSM 805HD. Bold type indicates statistical significance.

Pass	US, Aproximate Likelihood of Post Hoc Tests, Error Between Groups: MS = 0.01414, DF = 44.000									
	0	3	5	10	15	20	25	30	35	40
0		-	-	-	-	-	0.01051	-	0.00029	0.01759
3	-		-	-	-	-	0.02579	-	0.00059	0.04178
5	-	-		-	-	-	0.01517	-	0.00023	0.02801
10	-	-	-		-	-	0.00089	0.01008	0.00015	0.00169
15	-	-	-	-		-	0.00331	0.03507	0.00016	0.00638
20	-	-	-	-	-		0.00474	0.04806	0.00017	0.00909
25	0.01051	0.02579	0.01517	0.00089	0.00331	0.00474		-	-	-
30	-	-	-	0.01008	0.03507	0.04806	-		-	-
35	0.00029	0.00059	0.00023	0.00015	0.00016	0.00017	-	-		-
40	0.01759	0.04178	0.02801	0.00169	0.00638	0.00909	-	-	-	
Pass	F.S.1, Aproximate Likelihood of Post Hoc Tests, Error Between Groups: MS = 0.01134, DF = 50.000									
	0	3	5	10	15	20	25	30	35	40
0		-	-	0.00086	-	0.00875	0.00018	0.00030	0.00022	0.00023
3	-		-	-	-	-	0.00858	0.03005	0.01843	0.01960
5	-	-		-	-	-	-	-	-	-
10	0.00086	-	-		-	-	-	-	-	-
15	-	-	-	-		-	-	-	-	-
20	0.00875	-	-	-	-		-	-	-	-
25	0.00018	0.00858	-	-	-	-		-	-	-
30	0.00030	0.03005	-	-	-	-	-		-	-
35	0.00022	0.01843	-	-	-	-	-	-		-
40	0.00023	0.01960	-	-	-	-	-	-	-	
Pass	F.S.2, Aproximate likelihood of post hoc tests, Error between groups: MS = 0.00633, DF = 50.000									
	0	3	5	10	15	20	25	30	35	40
0		0.02437	0.01426	0.00018	0.00015	0.00015	0.00015	0.00015	0.00015	0.00015
3	0.02437		-	-	0.01129	0.00354	0.02816	-	0.00109	0.00985
5	0.01426	-		-	0.01948	0.00628	0.04670	-	0.00194	0.01707
10	0.00018	-	-		-	-	-	-	-	-
15	0.00015	0.01129	0.01948	-		-	-	-	-	-
20	0.00015	0.00354	0.00628	-	-		-	-	-	-
25	0.00015	0.02816	0.04670	-	-	-		-	-	-
30	0.00015	-	-	-	-	-	-		-	-
35	0.00015	0.00109	0.00194	-	-	-	-	-		-
40	0.00015	0.00985	0.01707	-	-	-	-	-	-	

Table S2. ANOVA with interactions for particular skidder types. U.S.-universal skidder Zetor 7245, F.S.1-forest skidder LKT 81 ITL, F.S.2-forest skidder HSM 805HD. Bold type indicates statistical significance.

US	SS	DF	MS	F	<i>p</i>
Intercept	7089.783	1	7089.783	9288.707	0.000000
Machine pass	14.120	9	1.569	2.055	0.031306
Depth interval	306.218	3	102.073	133.731	0.000000
Machine pass × Depth interval	88.588	27	3.281	4.299	0.000000
Error	541.158	709	0.763		

F.S.1	SS	DF	MS	F	<i>p</i>
Intercept	9513.703	1	9513.703	10324.13	0.000000
Machine pass	49.946	9	5.550	6.02	0.000000
Depth interval	241.754	3	80.585	87.45	0.000000
Machine pass × Depth interval	119.374	27	4.421	4.80	0.000000
Error	672.696	730	0.922		
F.S.2	SS	DF	MS	F	<i>p</i>
Intercept	6587.997	1	6587.997	4218.389	0.000000
Machine pass	87.583	9	9.731	6.231	0.000000
Depth interval	426.708	3	142.236	91.076	0.000000
Machine pass × Depth interval	175.978	27	6.518	4.173	0.000000
Error	783.990	502	1.562		

× indicated interaction between groups.

Table S3. Tukey's test between penetration resistances of the U.S.-universal skidder Zetor 7245, F.S.1-forest skidder LKT 81 ITL, and F.S.2-forest skidder HSM 805HD. Bold type indicates statistical significance.

US, Aproximate Likelihood of post hoc Tests, Error Between Groups: MS = 1,2621, DF = 739,00										
Pass	0	3	5	10	15	20	25	30	35	40
0		-	-	-	-	-	-	-	-	0.00794
3	-		-	-	-	-	-	-	-	0.00084
5	-	-		-	-	0.01125	0.01033	-	-	-
10	-	-	-		-	-	-	-	-	0.01621
15	-	-	-	-		0.04855	0.04567	-	-	-
20	-	-	0.01125	-	0.04855		-	-	-	0.00001
25	-	-	0.01033	-	0.04567	-		-	-	0.00001
30	-	-	-	-	-	-	-		-	0.00002
35	-	-	-	-	-	-	-	-		-
40	0.00794	0.00084	-	0.01621	-	0.00001	0.00001	0.00002	-	
F.S.1, Aproximate likelihood of post hoc tests, Error between groups: MS = 1,3607, DF = 760,00										
Pass	0	3	5	10	15	20	25	30	35	40
0		-	-	0.00510	-	-	-	0.00166	-	-
3	-		-	0.00081	-	-	-	0.01242	-	-
5	-	-		0.00324	-	-	-	0.00482	-	-
10	0.00510	0.00081	0.00324		-	-	0.00001	0.00001	0.00001	0.00001
15	-	-	-	-		-	0.00296	0.00001	0.00014	0.03524
20	-	-	-	-	-		0.00076	0.00001	0.00004	0.00980
25	-	-	-	0.00001	0.00296	0.00076		-	-	-
30	0.00166	0.01242	0.00482	0.00001	0.00001	0.00001	-		-	-
35	-	-	-	0.00001	0.00014	0.00004	-	-		-
40	-	-	-	0.00001	0.03524	0.00980	-	-	-	
F.S.2, Aproximate likelihood of post hoc tests, Error between groups: MS = 2,8992, DF = 532,00										
Pass	0	3	5	10	15	20	25	30	35	40
0		0.00635	0.00391	0.00001	0.03961	-	-	-	-	-
3	0.00635		-	-	-	-	-	0.00099	-	0.01340
5	0.00391	-		-	-	-	-	0.00058	-	0.01051
10	0.00001	-	-		-	0.00029	-	0.00001	-	0.00002
15	0.03961	-	-	-		-	-	0.00644	-	-
20	-	-	-	0.00029	-		-	-	-	-

25	-	-	-	-	-	-	-	-	-
30	-	0.00099	0.00058	0.00001	0.00644	-	-	-	-
35	-	-	-	-	-	-	-	-	-
40	-	0.01340	0.01051	0.00002	-	-	-	-	-