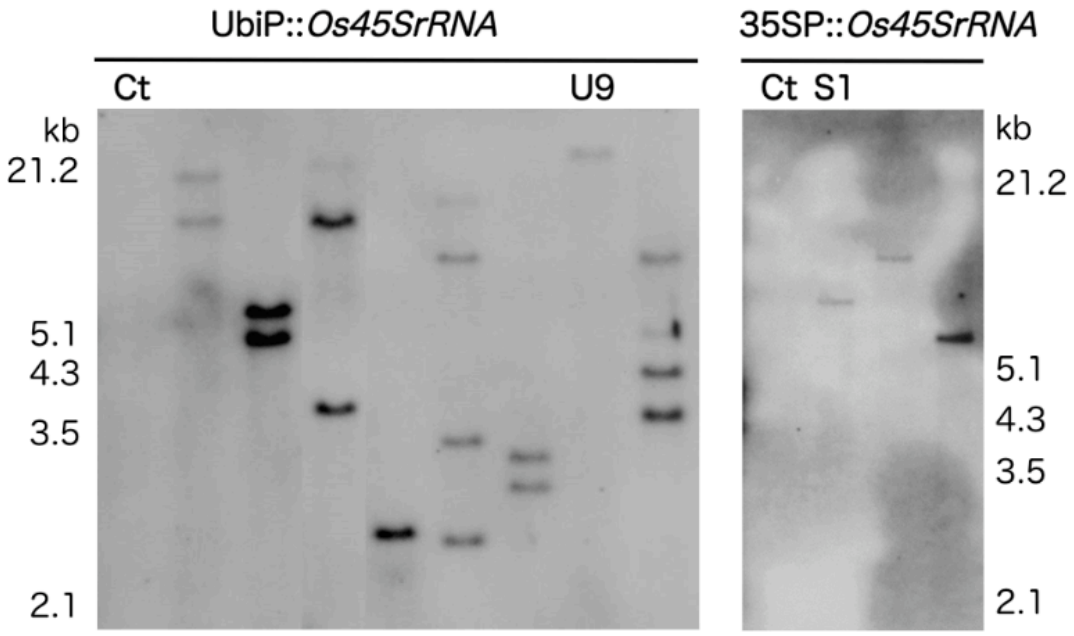

Figure S1 Southern blot analysis for hygromycin gene in transgenic plants. A: Transgenic tobacco plants containing single-copy (U9 and S1) of hygromycin resistance (*hpt*) gene were selected by Southern blot analysis. Total genomic DNAs were digested with *Hin*dIII and hybridization was done using labeled PCR product of *hpt* gene as a probe.

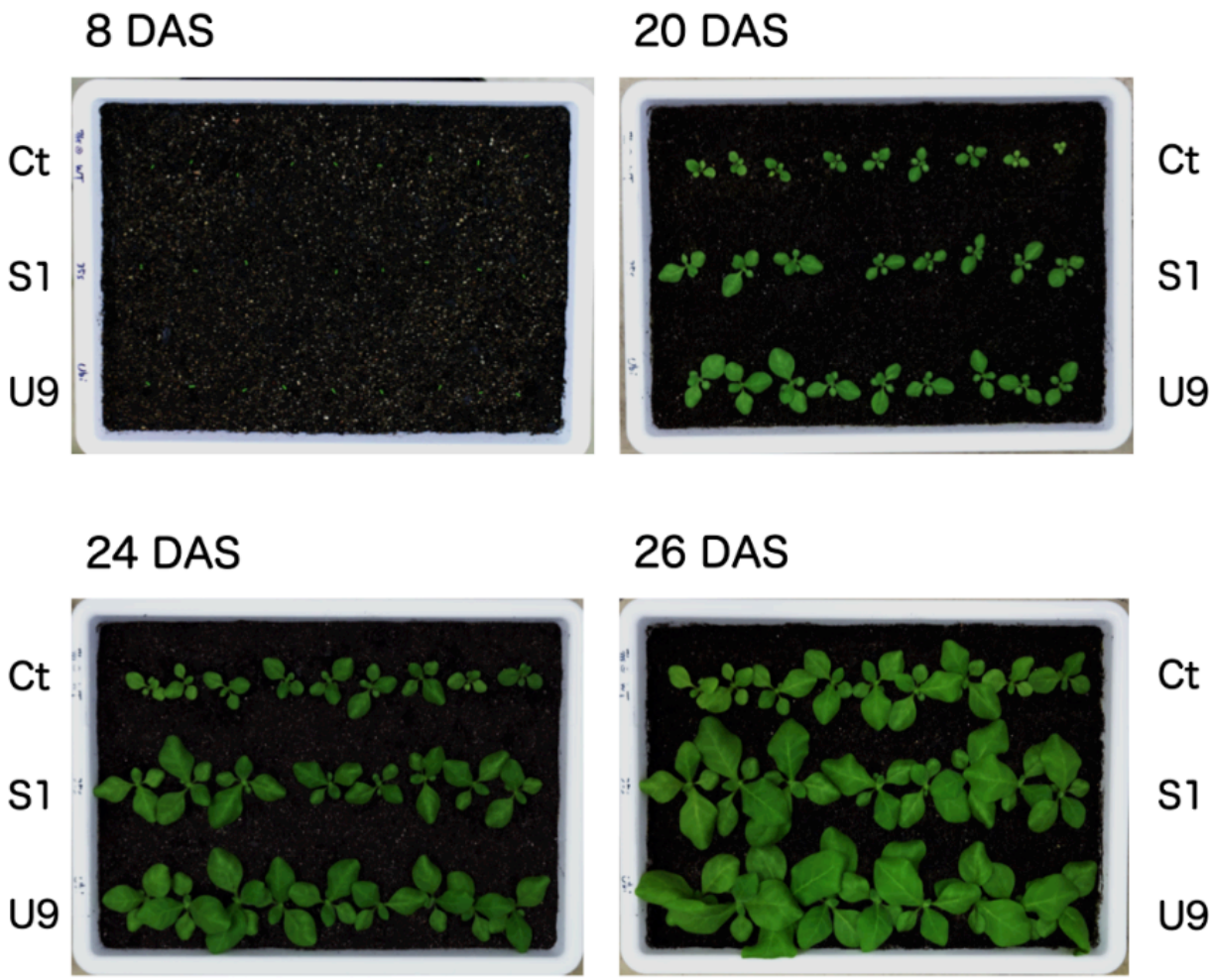

Figure S2 Comparison of growth between transgenic and control plants. Transgenic S1/U9 and control Ct plants were grown in large tray within a growth chamber. In this condition, U9 plants grew bigger than S1 plants during 20 to 26 DAS.

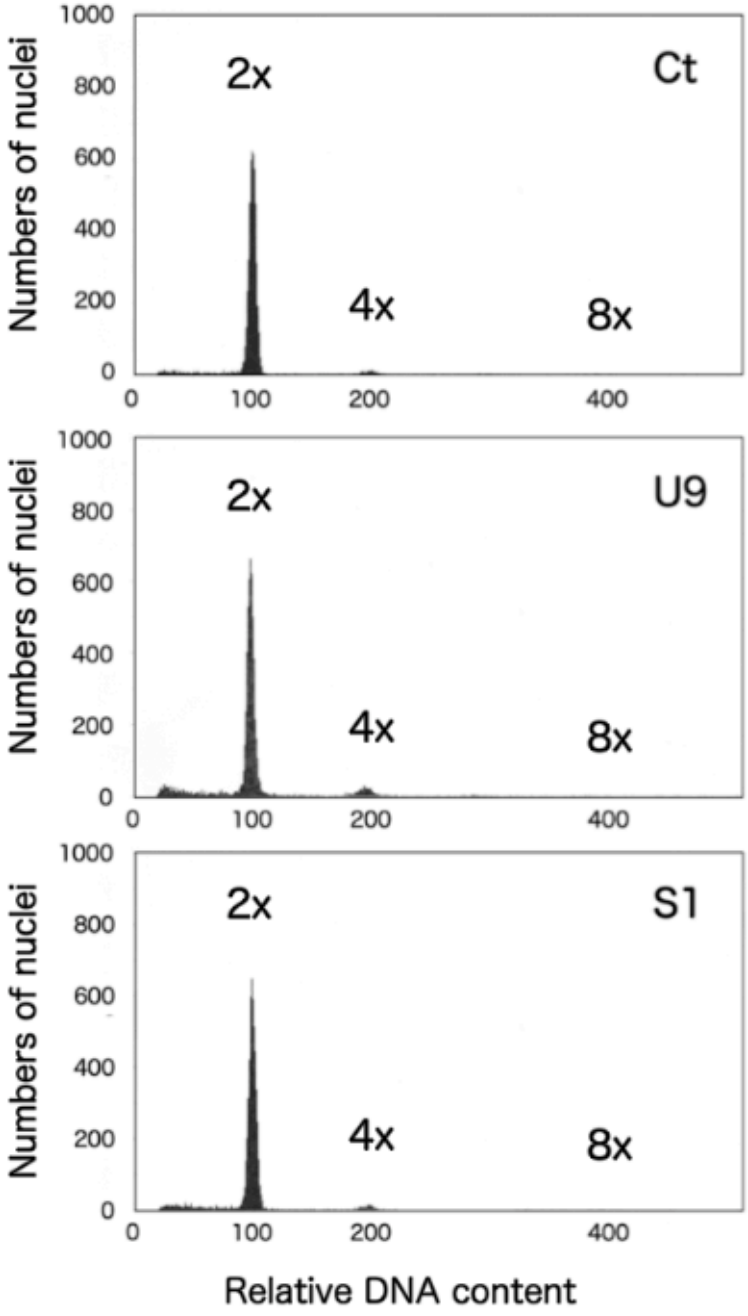

Figure S3 Relative DNA content per nuclei of leaf cells between transgenic and control plants. Fully expanded leaves of transgenic S1/U9 and control Ct plants were subjected to Partec flow cytometer at 30 DAS.

Table S1

Measurements of various photosynthetic parameters in transgenic and control leaves. Transgenic S1/U9 and control Ct plants were grown in a growth chamber and photosynthetic parameters of leaves were directly measured using IMAGING-PAM at 10, 17, and 24 DAS. φPSII: the quantum yield of photosystem II, 1-qL: the reduction state of PSII, NPQ: the non photosynthetic quenching.

	Line	φPS II	1-qL	NPQ
10 DAS	Ct	0.182±0.007	0.887±0.009	0.524±0.021
	S1	0.181±0.007	0.866±0.006	0.542±0.007
	U9	0.181±0.008	0.886±0.004	0.540±0.008
17 DAS	Ct	0.410±0.010	0.498±0.025	0.351±0.020
	S1	0.410±0.005	0.507±0.021	0.333±0.013
	U9	0.420±0.006	0.517±0.016	0.349±0.013
24 DAS	Ct	0.456±0.021	0.464±0.031	0.433±0.015
	S1	0.452±0.023	0.471±0.035	0.432±0.027
	U9	0.463±0.023	0.477±0.034	0.425±0.018

There were no significant differences between S1/U9 transgenic and Ct control plants. Data represent mean plus standard errors. n = 5.

Table S2 Relative DNA content per nuclei of somatic cells in U9 transgenic and Ct control seedlings

Organ		7 DAS			8 DAS			10 DAS			14 DAS			20 DAS		
		2C	4C	4C/2C	2C	4C	4C/2C	2C	4C	4C/2C	2C	4C	4C/2C	2C	4C	4C/2C
Cotyledon	Ct	2062	419	0.20	2201	117	0.05	3101	198	0.06	1970	245	0.12	3575	180	0.05
		1239	166	0.13	2867	87	0.03	3183	220	0.07	3517	388	0.11	3275	175	0.05
		1163	201	0.17	418	47	0.11	3038	275	0.09	2439	240	0.10	2913	199	0.07
	Sum	4464	786	0.18	5486	251	0.05	9322	693	0.07	7926	873	0.11	9763	554	0.06
	U9	2773	467	0.17	3122	146	0.05	3278	281	0.09	3463	351	0.10	2862	245	0.09
		2642	286	0.11	2608	172	0.07	3166	280	0.09	2408	211	0.09	1519	71	0.05
		2145	482	0.22	2750	144	0.05	2782	225	0.08	2539	249	0.10	2015	183	0.09
	Sum	7560	1235	0.16	8480	462	0.05	9226	786	0.09	8410	811	0.10	6396	499	0.08
Hypocotyl	Ct				780	626	0.80	408	178	0.44	545	613	1.12	565	434	0.77
					1303	926	0.71	811	608	0.75				270	225	0.83
					997	611	0.61	683	409	0.60				278	202	0.73
	Sum				3080	2163	0.70	1902	1195	0.63	545	613	1.12	1113	861	0.77
	U9				1511	1802	1.19	999	740	0.74	898	1031	1.15	428	237	0.55
					1143	1209	1.06	900	609	0.68				496	249	0.50
					1047	820	0.78	1156	729	0.63				783	571	0.73
	Sum				3701	3831	1.04	3055	2078	0.68	898	1031	1.15	1707	1057	0.62
Root	Ct	475	528	1.11	257	498	1.94	156	470	3.01	316	482	1.53	443	655	1.48
		530	682	1.29	148	347	2.34	125	409	3.27	337	375	1.11	617	565	0.92
		321	407	1.27	267	495	1.85	127	397	3.13	252	327	1.30	266	204	0.77
	Sum	1326	1617	1.22	672	1340	1.99	408	1276	3.13	905	1184	1.31	1326	1424	1.07
	U9	314	514	1.64	387	886	2.29	136	554	4.07	135	190	1.41	367	810	2.21
		231	573	2.48	353	687	1.95	335	880	2.63	158	279	1.77	494	606	1.23
		199	483	2.43	146	419	2.87	255	766	3.00	339	561	1.65	386	916	2.37
	Sum	744	1570	2.11	886	1992	2.25	726	2200	3.03	632	1030	1.63	1247	2332	1.87

Numbers indicated the counts of nuclei