Supporting Information

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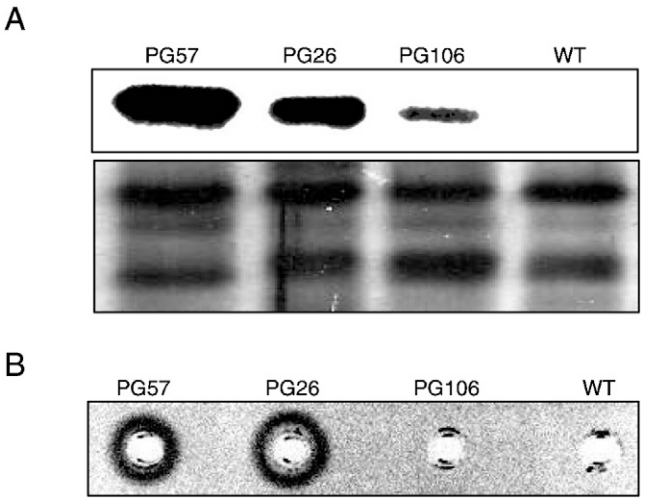

Fig. S1. Expression of polygalacturonase (PG) in independent Arabidopsis transgenic lines. (*A*) Equal amounts of total leaf proteins (2 μg) of WT and transgenic PG57, PG26, and PG106 Arabidopsis lines were separated by SDS-PAGE and transferred to a nitrocellulose membrane. The blot was hybridized with a polyclonal antibody against pgaII (*Top*). Silver nitrate staining was employed to confirm equal loading (detail, *Bottom*). (*B*) PG activity in Arabidopsis leaf total proteins (2 μg) of each line was determined by agar diffusion assay. The appearance of an opaque halo around the wells indicates polygalacturonate degradation.

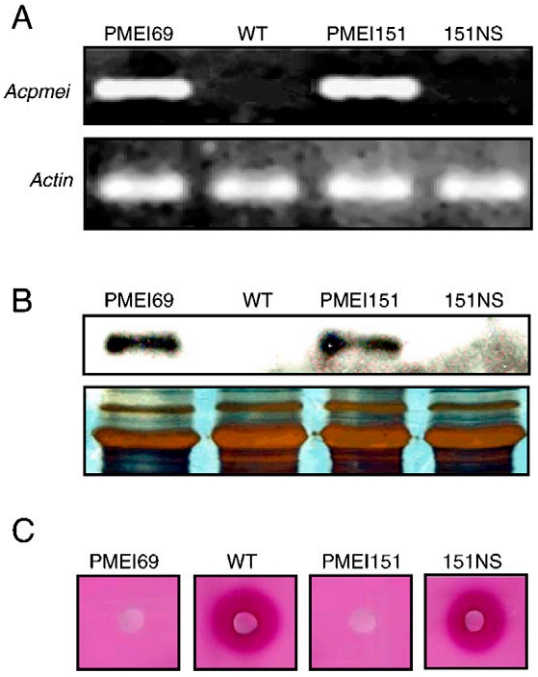

Fig. S2. Expression of pectin methylesterase (PMEI) in independent wheat transgenic lines. (*A*) AcPMEI expression in leaves of WT and transgenic PMEI69 and PMEI151 and null segregant plants of AcPMEI151 (151NS) plants, as determined by RT-PCR followed by agarose gel electrophoresis. Actin (*Act*) expression was used as a control. (*B*) Immunoblot analysis of equal amounts of total proteins (2 μg) extracted from leaves of WT and transgenic plants, by using a monoclonal antibody against AcPMEI (*Top*). Silver nitrate staining was employed to confirm equal loading (detail, *Bottom*). (*C*) Agarose diffusion assay for PME activity in equal amounts of total proteins (2 μg) from leaves of WT and transgenic plants. The absence of the halo indicates the lack of PME activity.

Table S1. Sugars and alcohol insoluble solid in transgenic plants

		Sugar (mg g^{-1}) fresh weight	AIS (mg g^{-1}) fresh weight	Starch (mg g^{-1}) fresh weight
Arabidopsis	WT	26 ± 4	38 ± 1	1.5 ± 0.2
	PMEI7	27 ± 4	43 ± 4	1.8 ± 0.3
	PG57	25 ± 1	40 ± 4	1.4 ± 0.1
Tobacco	WT	15 ± 1	32 ± 3	ND*
	PG16	15 ± 2	29 ± 5	ND*
Wheat	WT	93 ± 8	126 ± 10	2.8 ± 0.4
	PMEI151	86 ± 7	127 ± 8	2.7 ± 0.3

Total sugar, alcohol insoluble solid (AIS), and starch contents were determined in leaves of untransformed (WT) and transgenic Arabidopsis, tobacco, and wheat plants. Results represent the mean ± SD of three replicates. Differences between transgenic lines and the corresponding parental WT line were not statistically different, according to Student's *t* test ($P > 0.05$).
*Not determined.

Table S2. Analysis of sugars released during enzymatic hydrolysis of transgenic plants

		Glc (μmol g^{-1}) fresh weight	Xyl (μmol g^{-1}) fresh weight
Arabidopsis	WT	18 ± 2	0.32 ± 0.02
	PMEI7	34 ± 6*	0.28 ± 0.02
	PG57	30 ± 4*	0.41 ± 0.11
Tobacco	WT	30 ± 3.5	1.13 ± 0.27
	PG16	40 ± 3*	1.25 ± 0.43
Wheat	WT	81 ± 5	13 ± 2
	PMEI151	113 ± 6*	18.2 ± 0.3*

Glucose (Glc) and xylose (Xyl) released after 24 hours of enzymatic hydrolysis of leaf material of Arabidopsis, tobacco and wheat untransformed (WT), and transgenic plants were determined by using a high-performance anion-exchange chromatography with pulsed amperometric detection system (see *Materials and Methods*). Results represent the mean ± SD of three replicates.
*Statistically significant differences between WT and transgenic lines, according to Student's *t* test ($P < 0.02$).